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UNIV. OF  
CALIFORNIA

DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1921, No. 33

# MUSIC DEPARTMENTS OF LIBRARIES

By

A COMMITTEE OF THE MUSIC TEACHERS'  
NATIONAL ASSOCIATION



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TO VNU  
AMBOGUAO

## MUSIC DEPARTMENTS OF LIBRARIES.

### INTRODUCTION.

The Music Teachers' National Association committee on the history of music and libraries presents herewith the summaries of the questionnaire prepared by the committee and sent out by the Bureau of Education in 1917-18. This is the first statement to show the condition and resources of the music sections of public and school libraries, containing 5,000 volumes or over, throughout the United States. The result is both encouraging and discouraging. It is encouraging in that the report shows a fairly wide dissemination of considerable music libraries throughout the country, with some collections of first rank. It is encouraging for the reason that many more libraries report increasing interest in the music departments, in comparison to the number where music interest is stationary or decreasing. It is encouraging because many of the librarians who report small collections are careful to note that the reason therefor is recent installation of the section, perhaps even the youth of the library itself, or lack of room or of other facilities.

The discouraging feature is the lack of interest shown, though not more frequently than might be expected, by librarians, music teachers, and music lovers. One of the prime objects of the committee is to deal with this matter, and now that the information has been collated prompt steps will be taken.

The Music Teachers' National Association committee was appointed by the then president, Mr. J. Lawrence Erb, in 1916. As a preliminary to the later activity Mr. O. G. Sonneck, at the time chief of the music division of the Library of Congress, in Washington, read a paper at the annual meeting in New York on the "History of Music in America—A Few Suggestions," reprinted in the association's Proceedings for 1916, pages 50-68; and he contributed to *The Art World* (1917, June, pp. 242-244) an article, "Music in Our Libraries," which has such a direct bearing on the subject of this report that parts of it are reprinted in these pages as an appendix. In the months succeeding Mr. Sonneck prepared a questionnaire, which was sent out by the Bureau of Education to 2,849 libraries.

The answers to this questionnaire are summarized in the following pages, with such comment as seems appropriate for certain special cases. This stage of the committee's work now being complete, it remains to progress along other lines, such as an investigation of the large private music collections, and efforts to promote the larger encouragement of music sections by both libraries and their musical patronage. To this end suggestive lists of desirable books and music may be prepared and made available for interested parties.

Even a casual inspection of the reports received from the libraries indicates two important matters. If the collection of music or books on music is small and inadequate, patronage is almost invariably small. A number of librarians realize and mention this fact in their reports. A music section to which additions are constantly being made seldom fails to bring patronage in gratifying proportion to the accessions of musical material. The second outstanding fact

is that a librarian who is patently uninterested in a music section, even from a nonpartisan viewpoint, as some reports unfortunately indicate, can scarcely be expected to be an asset to the community. The libraries, large or small, that promote music in at least a fair and impartial way thus serve a considerable part of any community in a very special sense, and one that can react most desirably upon the library itself. On the other hand, there is an abundant opportunity for music teachers, students, and others to make larger use of the libraries and to encourage the library authorities to develop the music section facilities.

Some of the interesting features of the reports are detailed in the following account, and the committee hopes that the information thus collated will be of value to librarians and others. Many librarians have included in their reports mention of certain departments or activities that have met with popular approval. Some librarians, particularly in the Eastern States, seem rather shocked at the mention of player-piano rolls and phonograph records as library propositions, while other librarians are anxious to install or add to such collections. Some excellent finding lists, large and small, and some very attractive bulletins have been sent as evidence of interest in certain libraries; these are duly mentioned. It is hoped that the index of special features will be of particular use to librarians and serious music students.

WILLIAM BENBOW, *Chairman.*

WALDO S. PRATT.

O. G. SONNECK.

J. LAWRENCE ERB.

CHARLES N. BOYD.

## REPORTS FROM LIBRARIES.

### ALABAMA.

Reports have been received from seven libraries, six of which have less than 100 volumes on music, and the seventh 225 volumes. One has 51 bound volumes of music, one 1,543, and one 2,000 separate pieces. One has 18 scores. One library is now spending \$80 annually on its music purchases, from a special fund, and another has an appropriation of \$5. Two report increasing interest and one decreasing interest in music. Two libraries would increase the music section, and one believes it sufficient for the needs of the situation. One has a piano in the library.

The *Public Library at Birmingham* has only recently instituted a music section. It has 225 books on music, 51 bound volumes of music, and 1,543 separate pieces, in manila covers. It also has 382 player-piano rolls for circulation. Interest is reported increasing, and it is hoped that much more may be done with music in the future.

### ARIZONA.

Of the four libraries reporting music, one has 25 volumes, two 100 each, and one 200. One has 100 bound volumes of music, one 175, and one 1,000 separate pieces of music. No special interest is indicated, either on the part of libraries or the public, and only one library reports a desire for an increased music collection.

### ARKANSAS.

Music activity in Arkansas libraries seems to be largely represented by that department of the *University of Arkansas*, at Fayetteville. This institution has made a speciality of providing programs of phonograph records, each program accompanied by a nontechnical "talk," with copious notes and pictures. These programs, covering a wide range of music, are intended for communities otherwise deprived of music, and are used by clubs and schools all over the State. The programs and illustrative remarks have been largely used outside the State and are furnished upon request. By keeping the material in rapid circulation, this plan is accomplished with a supply of 300 records. A State appropriation provides annually \$300 for music, \$75 for books on music, and \$100 for records. Interest is increasing, and the present collection of 25 books, 100 bound volumes, and 100 separate pieces of sheet music in the library is entirely inadequate for the demand.

Part songs and chorus works are furnished other schools in the State, and an active propaganda is conducted by means of lectures and recitals, in addition to the above plan.

The only other library reporting music from Arkansas has a collection of 25 volumes on music, and evidently slight interest.



## CALIFORNIA.

Items reported.	Number of libraries reporting—								
	1-100	125-450	500-1,000	1,100-1,500	2,000 and over.	Not over \$100.	\$135-\$200	\$250-\$500	Over \$500.
Books on music.....	20	16	3	2	1	.....	.....	.....	.....
Bound volumes of music.....	10	5	7	1	2	.....	.....	.....	.....
Separate pieces.....	1	.....	11	.....	2	.....	.....	.....	.....
Phonograph records.....	6	2	.....	.....	.....	.....	.....	.....	.....
Scores.....	11	1	.....	.....	.....	.....	.....	.....	.....
Chamber music.....	5	1	.....	.....	.....	.....	.....	.....	.....
Acquisition cost.....	.....	.....	.....	.....	.....	2	.....	3	4
Annual expense for—	.....	.....	.....	.....	.....	.....	.....	.....	.....
Music.....	.....	.....	.....	.....	.....	8	2	2	.....
Books on music.....	.....	.....	.....	.....	.....	8	.....	1	1
Rolls and records.....	.....	.....	.....	.....	.....	2	1	.....	.....
Library fund appropriation.....	.....	.....	.....	.....	.....	1	2	.....	.....
Ideal appropriation.....	.....	.....	.....	.....	.....	4	3	6	1

The music sections of the 45 California libraries reporting indicate unusual interest in and attention to the subject. Eight persons devote their entire time as music librarians, while 22 others give their time largely, in addition to the customary help of the library staff. Orchestral scores and chamber music are found in an unusual number of libraries. The policy of the libraries seems to be influenced about equally by public request and institutional character. Gifts of library material are proportionately rare, and most of the acquisitions are by purchase, under expert guidance. Four libraries report opportunities for serious musical study; 21 libraries use special bulletins, newspaper, and other publicity; 8 report an annual appropriation for music department use, amount not specified. Other annual expenses are tabulated herewith. Seventeen libraries report increasing interest in music, four stationary interest, and one decreased interest since the war. Sixteen libraries favor additional outlay for music and books, believing the present supply inadequate, while four libraries would add player rolls or records. In 11 cases this is dictated by patrons' wishes, and in five cases by library policy. Pianos are available in three libraries and phonographs in four. Fifteen libraries have an interlibrary loan system for music, and two furnish "traveling" libraries. Two have lectures (in one case weekly), and both libraries pay for these lectures or recitals.

The *Los Angeles City School Library* makes a specialty of music and musical literature for public-school use and issues a list of book helps in biography, opera stories, and kindergarten songs and games; 2,500 teachers draw steadily upon this collection, which has an annual appropriation of \$200 for books on music, records, etc. The aim is to supplement the classroom work in music; to this end the records and material are very thoroughly classified and listed in every school building.<sup>1</sup> The plan is regarded as very successful and satisfactory.

The *Los Angeles Public Library* has 2,388 books on music in its main library and branches, with 3,537 bound volumes of music. The object has been to acquire a well-balanced collection, without specialties. No record is kept of users of the books on music, but 23,833 scores were loaned last year. The allowance this year is \$300 for music and \$100 for books on music.

The *Los Angeles Public Library* has made an innovation by advertising in a local music magazine, the advertisements being cleverly written and inviting. The monthly bulletin for December, 1914, describes the plans and operations of the music department, with a considerable list of recent additions. The sound-proof music room, with player pianos, may be used regularly by clubs according

<sup>1</sup> A long list of phonograph records is ready in mimeographed form.

to appointment. Local musical affairs are bulletined in advance, with mention of material in the library. The quarterly bulletin for October, 1916, prints a carefully selected list of books about music.

The *Oakland Free Library*, with 325 volumes on music and 950 bound volumes of music, has also about 7,500 copies of anthems and cantatas, which are circulated to church choirs. For the year closing June 30, 1917, 76 churches took 1,357 titles and 24,331 copies under this unique arrangement. A separate booklet gives the contents and rules for borrowing material from this collection, known as the Vesper Collection of Church Music, from its founder, Mr. O. M. Vesper. A 39-page list of this music was published in 1914.

The *Chaffey Library*, at Ontario, has 120 books on music, 125 bound volumes of music, and 100 records, evidently well chosen. A special bulletin of this material is published to stimulate high school and general interest in this department.

The *Pasadena Public Library* has 1,000 volumes on music and 980 volumes of bound music. Special attention has been paid to the collection of piano music and operas. The library reports music as one of its most popular departments.

The *Pomona Public Library* tried the experiment of giving each music teacher in the vicinity a list of musical works and offered to keep these lists up to date, but none have ever been returned for this purpose.

The *A. K. Smiley Public Library*, at Redlands, has 350 books on music and 600 bound volumes of music, particularly strong in vocal scores of operas; 70 chamber music works are represented. There is an annual appropriation of \$50 from the library funds for the music department. An 8-page catalogue of the musical material was published in December, 1913.

The *California State Library*, at Sacramento, supplements all the other libraries of the State. To this end it is desired to build up a fine collection of scores, records, and player rolls, as well as musical literature, and to loan this through the other libraries. As yet the musical collections are not large, but plans for a new State library building include a music room, and by the time the building is ready it is hoped the collection will be available. Two pamphlets published by the library explain the county free library system now in use in California.

The music alcove in the *San Diego Public Library* is practically a new undertaking, though it contains 1,500 books. The bound volumes of piano music are arranged according to periods and nationalities. There are also special collections of folk song and church music. Annually \$100 is taken from the book fund for music purchases; 2,000 persons now use the music collection annually, and the interest is increasing. The library notes the use of the music collection by music teachers and appreciate their requests and helpful suggestions.

The *San Diego High School Library* and school authorities believe in stimulating intelligent musical appreciation on the part of every student, and emphasize the cultural rather than the technical work. The high school has an elaborate four-year course in musical history, and after the first year the study is largely by assigned reference reading instead of textbooks. The library of 250 books on music and 400 records is largely selected in accord with this plan, and is patronized by an average of 25 scholars for every day in the school year. There is a liberal appropriation for books and records; music is not purchased for the library.

The *San Francisco Public Library* has a music room, with an adjoining sound-proof piano room. Two attendants devote all their time to the music collection, which includes 1,500 books on music, 2,124 bound volumes of music,

and 2,000 unbound pieces. About 35 per cent of the music books are in German or Italian. The collection is strong in piano music and vocal and instrumental scores of operas. There are 100 orchestral scores, and about 100 chamber music works. The library has a valuable collection of Spanish music, and many early and rare editions. About \$500 is spent annually on music, and about \$600 on books on music. In 1915-16, 6,969 borrowers used the music collection, and the following year this number increased to 9,259, no count being kept of readers who do not take books out. The use of the music department, as compared with the entire library, was 2.84 per cent for 1915-16 and 3.46 per cent for 1916-17. There are weekly lectures, as a university extension course, under the auspices of the University of California. The department is brought into touch with all musical events in the city. Programs are obtained in advance and filed, musical magazines are indexed, and articles of interest to readers of the department are clipped from the daily papers.

## COLORADO.

Items reported.	Number of libraries reporting—						
	1-99	100-200	250	600	1,350	Not over \$100.	\$500-\$1,000.
Books on music.....	6	3	2	2	1	.....	.....
Bound volumes of music.....	3	1	.....	1	.....	.....	.....
Separate pieces of music.....	1	.....	.....	.....	.....	.....	.....
Acquisition cost.....	.....	.....	.....	.....	.....	2	2
Annual expense for—	.....	.....	.....	.....	.....	.....	.....
Music.....	.....	.....	.....	.....	.....	2	.....
Books on music.....	.....	.....	.....	.....	.....	3	.....
Library fund appropriation.....	.....	.....	.....	.....	.....	3	.....
Ideal appropriation.....	.....	.....	.....	.....	.....	2	1

Of the 14 Colorado libraries reporting music sections, there is but 1 of considerable size. Three report stationary interest and two increasing interest. Five libraries are willing to add to the list of books on music and three to the supply of music. Player pianos and phonographs seem to have no place in Colorado libraries.

The *Public Library of Denver* has a collection of 1,348 volumes in the music department. It has a few orchestral scores and chamber music works, but regards the collection as strongest in books on music, song, piano, and violin collections; also opera and oratorio stories. A Denver music society provides a special fund from which purchases are made. Unfortunately no provision was made in the library building for a sound-proof music room; and as the musicians seem to prefer personal ownership of music, the library patronage drifts mainly toward books on music. All the song collections are indexed, and this index is perhaps the music department's most valuable asset. As yet the index is not available in printed form.

## CONNECTICUT.

Items reported.	Number of libraries reporting—							
	1-49	50-200	200-699	700-1,000	1,800	2,200	3,000	3,500
Books on music.....	25	14	5	2	.....	1	.....	.....
Bound volumes of music.....	5	10	.....	2	1	.....	1	.....
Separate pieces.....	1	3	1	1	.....	.....	.....	1
Phonograph records and player rolls..	(1)	(1)	.....	.....	.....	.....	.....	.....
Scores.....	4	1	1	.....	.....	.....	.....	.....
Chamber music.....	3	1	.....	.....	.....	.....	.....	.....

<sup>1</sup> None reported.

As will be noted in the accompanying table, neither the size of the music sections nor their appropriations are apt to be large in this State. Only 4 libraries report an increasing interest in music, 8 are stationary, and 34 make no observation in this respect. Seven libraries would add to the present collection of music, 6 to the books on music; the others are noncommittal. In the matter of ideal annual appropriation, one library favors \$25, one \$50 to \$75, one \$100, and one \$500.

The *Hartford Public Library*, at Hartford, has 500 books on music, about 3,000 volumes of music, and some 30 each of orchestral and chamber music scores. Vocal scores of operas, songs, piano music, four-hand arrangements of orchestral works, and folk songs are well represented. Local concert programs are posted on the music room bulletin board. About \$125 is spent annually for music and \$25 for books on music. The average number of actual users of the music collection is about 2,000 yearly, and the demand for music is 75 per cent, as compared with 25 per cent for books on music. Therefore the library strongly favors the purchase of music in preference to books.

The *New Haven Colony Historical Society*, at New Haven, has a small collection of music books. Daniel Read, one of the earlier American church composers, was a resident of New Haven, and some of his books are in this collection, including one or more manuscript books evidently of his compilation.

The *Free Public Library of New Haven* has 725 books on music and 850 bound volumes of music. The plan of this library is considerably affected by the location in the same city of large musical collections belonging to Yale University and professors in the university music school, all of which are accessible to music students. The resulting policy of the public library is to develop a popular rather than a conservatory collection in its music department, which is planned for general use. The music collection is relatively strong in vocal scores of operas and oratorios and songs. Quarterly bulletins of new accessions are issued in addition to weekly newspaper notices. Of the total music department circulation, 60 per cent is of music and 40 per cent of books on music.

The *Yale School of Religion* owns the church music library of the late Dr. Lowell Mason, containing some 8,000 titles in 700 volumes. As the collection was one of the first of its kind in this country, it is of peculiar interest. At present it is deposited in a room in Wright Hall, but the expectation is to ultimately make the collection accessible to students in the Yale Music School.

The *Yale University Library* has a music room, with one attendant, previously trained in general library work. There are 2,200 books on music and 1,800 bound volumes of music; 40 per cent of the books are German, 6 per cent French, 4 per cent Spanish, Russian, etc. There are 350 orchestral scores and 40 of chamber music. History, folk song, and early American music are the strongest fields, and these offer some attraction for research workers. The amount spent on the library varies greatly from year to year. There is an income of \$50 from an endowment fund; perhaps the average annual outlay is \$50 for music and \$150 for books on music. Interest in the collection is felt to be stationary and not equal to the interest of the community in music; a strongly expressed desire for books or music would be met. The collection is kept fairly up to date in historical, critical, and theoretical works, especially those of modern French and German authors.

#### DELAWARE.

The only considerable music library reported is that of the *Wilmington Institute Free Library*, at Wilmington. It has 350 books on music, 473 bound volumes of music, and 1,000 separate pieces of music, and this is considered sufficient to supply the demands of the community.



## DISTRICT OF COLUMBIA.

The outstanding feature of the report from this District is of course the music division of the *Library of Congress*. The functions of this division are, to quote the words of the report, "national, international, and incidentally local. Its ultimate ambition is to make the serious study of music and the literature of music so comprehensively easy for Americans as to obviate the necessity of consulting European libraries except in very special fields of musical erudition. Since the reorganization of the music division in 1902, the principle of organic development has been adhered to consistently, with results best studied from the Annual Reports of the Librarian of Congress, 1903 to 1917, from Mr. Sonneck's articles, and others as follows":

*Sonneck, O. G.*

"The Music Division of the Library of Congress."

In *Library Journal*, 1915, vol. 40, No. 8, pp. 587-589.

In *New Music Review*, 1910, v. 9, pp. 74-78.

"Methods, Policies and Resources," in M. T. N. A. *Proceedings*, 1908, pp. 260-287.

*Kinkeldey, Otto.*

"American Music Catalogs."

In *Library Journal*, 1915, v. 40, No. 8, pp. 574-578.

*Scholes, Percy A.*

"A National Storehouse of Knowledge. A Visit to the Music Section of the Library of Congress." In *Music Student*, London, 1916, v. 8, pp. 322-324.

The following statement has been communicated by the Librarian of Congress:

THE MUSIC DIVISION OF THE LIBRARY OF CONGRESS.<sup>1</sup>

The music division was organized in 1897, when the collections consisted almost solely of accumulated copyright deposits. It was an accumulation of music rather than a collection, and certainly did not merit the designation of "musical library." In order to transform it into one worthy of such a name and of the national library at least four steps were necessary. These were (1) a survey and proper organization of the existing collection, (2) the determination of a suitable scheme of classification and of a workable set of cataloging rules, (3) a plan of development that would be systematic, and (4) the application of systematic effort in pursuance of this plan through the acquisition of material. A decision to work along these lines was reached in 1902, and for 15 years was most ably carried out under the direct supervision of Mr. O. G. Sonneck, who was for that period chief of the division.

Before 1902 the chief resources of the music division were the copyright deposits. Consequently until 1902 the collection, generally speaking, represented only the product of the American press, either as original compositions and books on music by Americans or reprints of European publications. The collections embraced in the main musical products of the American press from 1819 on. There were, of course, the several thousand items copyrighted by European music publishers between 1891 and 1902, but this was mostly music by present-day composers. Apart from this there were some old English song collections, a few odds and ends of unknown origin, and a single edition of Beethoven's symphonies.

To-day the music division has good or excellent working collections in practically every field that has so far come within the sphere of concentrated action, as, for instance, cantatas, oratorios, and the like. The collection of about 20,000 librettos is the largest in existence. The published works of new composers who have "arrived" have been collected comprehensively; so that the library has come to be known as the place where a thorough study of the works of new men is likely to be possible.

The collection of chamber music since 1800 is perhaps excelled only by that in the Royal Library at Berlin. The orchestra scores number about 5,000

<sup>1</sup> Based largely on articles by Mr. O. G. Sonneck, chief of the music division.

symphonies, suites, concertos, and the like. The collection of vocal scores of operas is estimated to exceed 7,000. Of full orchestral scores of operas there are approximately 3,000, including some 500 special transcripts of old scores not obtainable from dealers. The difficulties confronting every collector of full scores of dramatic music are manifold. There is the great and sometime prohibitive cost of opera scores and the fact that many important old operas were never printed and are preserved only in a few libraries in autograph or contemporary manuscript copies. Then there is the stubborn refusal of certain publishers to sell their operatic scores to libraries and the still more stubborn refusal of some libraries to permit the copying of old opera scores.

The library has been made the depository, largely by gift, of hundreds of the autograph scores of representative musical works by American composers.

No attempt has been made to collect systematically the original editions of music published prior to 1700, as reliance has been placed upon the "Denkmäler" and other historical collections, but numerous specimens of the various editions of different works have been acquired. Of eighteenth century music the Library of Congress has a collection which is more extensive than that in most European libraries.

The music division does not aspire to become a museum of costly relics. It places the best interests of the scholar above everything else. The acquisition of such things as medieval missals and collections of musicians' portraits has been deferred, partly with a possible *en bloc* purchase in view.

The library aims to have a reasonably comprehensive collection of material bearing in any way on music in America and more particularly on American music. The national libraries of Europe have but a slight interest in American music and music in America, excepting as American composers' methods or conditions have become or will become of international interest. In the Library of Congress, on the other hand, while American music is deemed to be of paramount importance, yet it collects the musical product of Europe very much in the same manner as European libraries do. The aim here is to make the collection of music and books on music sufficiently comprehensive to relieve ultimately the American scholar of the necessity of consulting European libraries, except for research not bearing directly or indirectly on music in America as a reflex of music in Europe.

On July 1, 1918, the music division contained 822,009 volumes, pamphlets, and pieces, housed on metallic shelving in one large room and the cellar immediately below. Three additional rooms are used for administrative purposes and for the catalogues. Material is classified on the shelves according to subject and not by size or by date of accession. Sheet music, as well as the bound volumes, is shelved vertically. The sheet music is kept in pamphlet boxes of a convenient size. The collection is catalogued on cards and the catalogue is divided into three groups corresponding with the scheme of classification: Music (M), Literature of Music (ML), and Instruction and Study (MT). The catalogue of music is again subdivided into a composer, a class or subject, and the title index. For the literature of music and instruction and study, the dictionary form of catalogue is used. There are separate indexes of early Americana and the articles in periodicals. Special attention has been paid to this periodical index.

The class of literature, the histories of music and biographies of musicians, the psychology and philosophy of music, as well as essays on musical topics, are particularly well represented. For instance, about one-third of all the books on music published before the year 1800 are now in possession of the Library of Congress. The number of current as well as older periodicals is quite extensive. Nearly all the American periodicals are represented, although a few of the older ones, dating from the beginning of the nineteenth century, are noticeable by their absence.

Under Instruction and Study are classed not only the general theoretical works and methods but instructional editions of musical compositions, teaching pieces, and school readers. The most complete of all the classes under this heading are harmony, counterpoint, orchestration, singing and voice culture, and analytical guides to operas and orchestra music. These have been acquired principally through copyright channels, except in the case of rare and old editions (before 1800) which have been purchased.

Nine attendants give their entire time to this collection. There are 34,994 books on music, including about 20,000 librettos, but exclusive of several

thousand books on the theory of music classified with Musical Instruction and Study.

Of books on music proper printed before the year 1800 there are not less than 1,500, about one-third of all such books known—a fair illustration of the music division as a treasure house of musical rarities.

It is impossible to say how many volumes or pieces of music the library contains. There are 741,265 volumes and pieces of music, exclusive of many thousands classified with Musical Instruction and Study, such as études, teaching pieces, etc. There are about 5,000 rolls for player pianos, but no phonograph records.

The majority of the books on music are in foreign languages, but the Library of Congress possesses the majority of those printed in English, if of any value. Possibly one-seventh of the music was published outside the United States, but it should be remembered that all music published and copyrighted in the United States comes to the Library of Congress, averaging about 25,000 accessions yearly. Foreign editions are purchased in Europe. While the library is strong in every field of collection, as compared with other libraries, and while it contains innumerable costly and rare scores of European music, old and new, it is still preponderantly strong in American music, by virtue of the copyright act, and in early American music also, by virtue of purchase.

There are, perhaps, 10,000 orchestral scores, of operas, symphonies, concertos, etc., and at least 5,000 or more chamber music works. Preference is always shown for the acquisition of works in their original form. If arrangements are purchased, those for piano, two hands, are preferred.

The policy governing the collection has been that of a National Library. There have been gifts, notably of about 1,000 autograph compositions of American composers; the sum of approximately \$150,000 has been expended on the purchase of music and books on music; finally, the value of music and books on music acquired through copyright easily exceeds the sum spent for the purchased material.

The annual expense for purchased music and books on music varies according to opportunity. The minimum allowance for music is \$5,000 annually, but in one year more than \$10,000 has been spent for music. More than \$5,000 has been spent in one year for books on music. No allowance is made for player-piano rolls or phonograph records.

Interest in this library appears to be about uniform from year to year. In 1916-17 there were about 3,500 readers; 15,324 volumes and pieces of music were used, and 6,750 books on music. Readers have the use of a piano in the library. The interlibrary loan system is used without geographical restrictions. "Travelling" libraries are not furnished. Lectures and lecture recitals by volunteers are given under the auspices of the Reading Room for the Blind.

Of course, this library is primarily a reference library. It has no branches. The sum, \$10,000, is counted a reasonable annual expenditure, and no preference for either line is shown in the purchase of music or of books on music. The library is planned on a national scale, and the fact that it has been brought to such an attainment should be a source of immense satisfaction to every American who is interested in such matters.

*The Public Library of the District of Columbia* has plans for the opening of a fine arts division, which have been deferred on account of the losses in personnel due to the war. The music collection will form part of this division when it is opened, and it is expected that the already healthy growth of this department will then be largely increased. At present the collection numbers 1,300 books on music, with 1,800 bound volumes of music, and comparatively

little sheet music. About 225 orchestral scores, mostly acquired by gift, and about 80 chamber-music works are listed. There is a good collection of songs, and the library is strong in two and four hand piano arrangements. At one time the library had a small collection of music rolls, but the plan had to be given up. Whether it will be revived or not can not be said at present. Because of the proximity of the Library of Congress the Public Library does not cater to the research student, but the historical collection does afford opportunity for intensive study. Of the total library use, music amounts to 3 per cent and books on music 1 per cent.

## PUBLICATIONS OF LIBRARY OF CONGRESS.

**CLASSIFICATION:** Class M, Music; Class ML, Literature of music; Class MT, Music instruction. Adopted 1902. 1917 (revised). 157 p. 25 $\frac{1}{2}$ "<sup>cm</sup>. Paper, 10c. 4-21982.

**DRAMATIC MUSIC.** Dramatic music, catalogue of full scores; comp. by O. G. T. Sonneck, Chief, Division of Music. 1908. 170 p. 25 $\frac{1}{2}$ "<sup>cm</sup>. Cloth, 40c. 8-35001.

**EARLY MUSIC.** Catalogue of early books on music. (Before 1800); by Julia Gregory, Catalogue Division. Prepared under the direction of O. G. T. Sonneck, Chief, Division of Music. 1913. 312 p. 25 $\frac{1}{2}$ "<sup>cm</sup>. Cloth, 60c. 12-35008.

**FOSTER CATALOGUE.** Catalogue of first editions of Stephen C. Foster. (1826-1864.) By Walter R. Whittlesey and O. G. T. Sonneck, Chief, Music Division. 1915. 79 p. 25 $\frac{1}{2}$ "<sup>cm</sup>. Cloth, 40c. 14-30011.

**MACDOWELL CATALOGUE.** Catalogue of first editions of Edward MacDowell (1861-1908). By O. G. Sonneck, Chief, Division of Music. 1917. 89 p. 25 $\frac{1}{2}$ "<sup>cm</sup>. Cloth, 40c. 17-26002.

**OPERA LIBRETTO.** Catalogue of opera librettos. Printed before 1800. Prepared by O. G. T. Sonneck, Chief, Division of Music. 2 v. 1914. 1674 p. 25 $\frac{1}{2}$ "<sup>cm</sup>. Cloth, \$2 per set. 13-35009.

**ORCHESTRAL MUSIC.** Catalogue of orchestral music. Part I, scores; comp. under the direction of O. G. T. Sonneck, Chief, Division of Music. 1912. 663 p. 25 $\frac{1}{2}$ "<sup>cm</sup>. Cloth, \$1. 11-35001.

**STAR-SPANGLED BANNER.**<sup>1</sup> Report on the "Star-spangled banner," "Hail Columbia," "America," "Yankee Doodle"; comp. by O. G. T. Sonneck, Chief, Division of Music. 1909. 255 p. Plates. 25 $\frac{1}{2}$ "<sup>cm</sup>. Cloth, 85c. 9-35010.

This publication resulted from a request for information on the historical evolution of the songs and their music. The report has been printed in order to preserve the material in convenient and critical form for future reference, and facsimiles have been included to facilitate the study of the text. It is not for free distribution, but sold only by the Superintendent of Documents, Government Printing Office.

Revised and enlarged edition of the chapter on the "Report on the Star-spangled banner" issued in 1909. 1914. 115 p. Plates. 25 $\frac{1}{2}$ "<sup>cm</sup>. Cloth, 85c. 13-35008.

## FLORIDA.

Items reported.	Number of libraries reporting—							
	1-25	26-50	100-150	180	300	400	\$15	\$25
Books on music.....	2	1	1					
Bound volumes of music.....	1	1	1					
Separate pieces.....					1	1		
Player-piano rolls.....		1						
Phonograph records.....				1				
Scores.....	1							
Annual expense for music.....							1	13
Annual appropriation.....								1

<sup>1</sup> One includes both music and books on music.

The summarized report for the four libraries replying indicates comparatively small attention to the music departments. Two libraries report increasing

<sup>1</sup> Exhausted.

interest, and three believe their present musical facilities inadequate for the needs of the respective communities.

### GEORGIA.

Five reports from Georgia indicate almost total stagnation in musical library activities. Not one of the five libraries has over 25 books on music, while one has 25 bound volumes of music, and 25 phonograph records are reported by one library; no sheet music is reported at all. The single annual appropriation is \$5 at one library for books on music.

### IDAHO.

At the *Lewiston State Normal School Library* there are 150 books on music and 48 separate pieces of music, with 60 player-piano rolls and 150 phonograph records. The collection is planned with a view to its use in the school, and about \$50 is spent annually for books on music and \$10 for rolls and records. Records are sent out as "traveling" libraries. Two recitals a year are given under library auspices.

The *Idaho Free Traveling Library*, located at Boise, sends out special cases of books on music, but has no special music department.

### ILLINOIS.

Items reported.	Number of libraries reporting—										
	1-25	26-50	51-100	150-450	500-700	750-950	1,000	2,000	3,500	4,200	13,000
Books on music.....	9	15	7	14	4	.....	1	1	.....	.....	11
Bound volumes of music.....	3	1	2	7	1	2	.....	1	.....	.....	.....
Separate pieces.....	.....	.....	2	2	2	.....	.....	.....	1	1	.....
Player-piano rolls.....	1	1	.....	.....	1	.....	.....	.....	.....	.....	.....
Phonograph records.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Scores.....	1	.....	2	2	.....	.....	.....	.....	.....	.....	.....
Chamber-music works.....	1	2	2	1	.....	.....	.....	.....	.....	.....	.....

Items reported.	Not over \$25.	\$26-\$50.	\$51-\$100.	\$250.	\$350.	\$400.	\$500.	\$2,500.
Annual expense for—								
Music.....	.....	1	11	11	.....	11+1	1	.....
Books on music.....	4	1	2	.....	.....	1	.....	.....
Library fund appropriation.....	1	.....	.....	.....	1	.....	1	.....
Endowment fund appropriation.....	.....	.....	1	.....	.....	.....	.....	.....
Ideal appropriation.....	1	1	2	.....	3	1	1	1

<sup>1</sup> Includes books on music and bound volumes of music.

In Illinois 58 libraries report music departments, and the average size of the collections is above that reported by most States. There are several large collections and a number of special features, as listed below: Eighteen libraries use special bulletins or newspaper notice of new accessions, 11 report increasing interest, 14 stationary, and 1 a decrease since the war. Only 4 libraries believe their collections commensurate with the community's interest in music, 12 would add to the music itself, 19 to books on music, and 1 library is anxious to increase its supply of orchestral scores.

The *Cairo Public Library* is one of the smaller collections, but the material seems to be much used, and the interest, both on the part of the public and the library force, above the average. It is hoped that funds will presently be pro-

vided for the addition of sheet music, rolls, and records to the present collection of bound volumes.

The *Chicago Public Library* has a room devoted to music only, entirely separate from books on music. The 2,000 bound volumes of music and 3,500 separate pieces are in charge of a librarian who devotes her entire time to this work. There are now 5,120 registered borrowers of music, and the collection is deemed inadequate for the demand. The library carries no orchestral scores, but has numerous arrangements of orchestral works and 800 scores (with parts) of chamber music. "Popular home music" is the strong field in the collection, along with songs, vocal scores of operas, and chamber music. The selection of music is dictated by the library's policy and expert advice, and the material is acquired by purchase, \$7,500 having been spent to date, with an annual appropriation of \$500 for music; \$100 of this comes from an endowment fund, and \$2,500 is considered an ideal annual sum for the purchase of both books on music and music to meet the needs of this library. There are no musical instruments in the library, though one of the 42 branches has had a gift of 500 music rolls.

By agreement, the *John Crerar Library*, of Chicago, leaves music to the field of the Newberry Library. The Crerar Library, however, collects books on the manufacture and history of musical instruments and on the theory of musical sound.

The *Newberry Library*, of Chicago, has 12,829 volumes and pamphlets listed under music. Each individual work is counted as one, not by collective bindings. There are 220 orchestral scores and 33 chamber music works. There is a collection (not recent) of about 4,000 volumes on hymnology, and the private library of the late Theodore Thomas is also found here. The general collection is strong in operas, complete works of composers, older works on theory, hymnology, and church music. Gifts are comparatively rare; purchases are made in accordance with the library policy. Opportunity for musical research is afforded in the way of critical editions of compositions, complete works of composers, minute differences of edition in hymn books, full scores of operas, and unindexed clippings relating to concerts. The annual expenditure is \$450 for books on music. Owing to a change in the policy of the library, which resulted in specializing on literature and history, and the transfer of a large amount of duplicate music to the circulation facilities of the Chicago Public Library, the collections of the Newberry Library (reference only) show a decreased use in recent years. The number of volumes used in 1917 was 3,263. Though the present policy precludes large purchases of books on music, the expenditure last year in this line was about 8 per cent of the total outlay for book acquisition, and the library still favors the addition of full scores and books on music. Special collections acquired by the library, in addition to the Theodore Thomas library, are those of Count Resse (Florence), Lob and Fuchs (Chicago), and Main (New York).

The *Virginia Library of McCormick Theological Seminary*, in Chicago, is specially strong in church music and hymnology. The collection, largely acquired by gift, includes 1,000 books on music and 750 bound volumes of music.

The *Evanston Public Library* has 2,000 volumes on and of music, 397 separate pieces of music, and 652 player-piano rolls. There is the rather unusual provision that readers are allowed, in addition to the usual number of books on a card, two books on music, two volumes of printed music, and two pianola rolls. The strong feature of this library is its collection of vocal scores of operas. It has 33 chamber music works and purchases not only piano music for two or four hands,

but also two-piano music. On the music department \$2,000 has thus far been spent, and there is an annual income from an endowment fund of \$822.50 for music department purchases. The interest is increasing, and last year 1,600 persons used the music collection; the relative order of use being books on music, music, and music rolls. Readers have the use of a piano and player-piano in the library.

The printed catalogue of the Coe Music Collection and other musical literature in the Evanston Public Library is a book of 128 pages, dated 1916, and is valuable as one of the latest and most complete lists of its kind.

Two squares from the Evanston Public Library is the school of music of *Northwestern University*, and here again is an example of sensible cooperation in library matters. As the public library is well suited for general use, the university library specializes. It has 450 books on music and 25 bound volumes of music, with thousands of unbound pieces which are regarded as part of the teaching equipment. There are about 200 orchestral scores, with many piano arrangements for two and four hands. The need of a chamber music collection is obviated by a large collection owned by a member of the faculty. The strong point of the library is new publications. There are no gifts, everything being purchased in accordance with the policy of the library and faculty advice. An appropriation from library funds permits the annual outlay of \$400 for music and \$100 for books on music.

The *Peoria Public Library* published a 56-page list of music and books on music and musicians in March, 1915. It summarizes 690 books on music and 950 bound volumes of music, selected with a view to general use.

The *Rockford Public Library* has 600 books on music and 150 bound volumes of music, all acquired by purchase. It has a special card index to all song collections, to which the patrons are partial. About \$75 a year is spent on the music department, which seems to satisfy the local demand.

The library of the *University of Illinois*, at Urbana, has 600 books on music and 4,215 volumes and cardboard-bound pieces of music. There are about 100 orchestral scores, and this number is increased yearly. There are also 100 chamber music works. The specialties are organ music, books on music, piano and string instrument music. Practically all of this library has been acquired by purchase, and about \$3,000 has been spent thus far, the annual appropriation for the library being \$400. There is opportunity for intensive study of organ music, history of music, and the classic cantata field. About 2,000 persons use the library each year, but since no publicity means are used the public is not acquainted with the scope and size of the music collection. The policy of the library is to add both books and music in larger measure than in the past. Music rolls are used only in the school proper, not in the library.

## INDIANA.

Items reported	Number of institutions reporting—									
	1-25	26-50	55-100	150-200	225-350	500-600	700-850	1,300	1,850	2,475
Books on music.....	7	7	14	5	4	1	1			
Bound volumes of music.....	5	2	2	1		1	1			1
Separate pieces.....			3	1		1		2	1	
Phonograph records.....	2			1	2					
Player rolls.....				3	1			1		
Scores.....	1	2	1							
Chamber music works.....	2	1	1							

In Indiana the music library situation appears to be in a healthy and encouraging condition; 41 libraries report music sections and 13 of these believe their music facilities should be enlarged to meet the demands of the communities; 14 libraries report increasing interest in music, 7 stationary, and 1 decreasing. There are few large collections of music in these libraries, but a good distribution of material. Pianos and phonographs are more frequently found in libraries here than in most Eastern States. Nearly one-half of the Indiana libraries use some special means of announcing accessions, and in general there is a refreshing spirit about the reports.

The *Gary Public Library* has an unusual number of player-piano rolls, 1,100. For these, the 100 books on music and the 150 bound volumes of music, the average number of users in a year is 11,000. There is a piano and player-piano in the library, and a phonograph is borrowed for special use. Lecture recitals are given under the auspices of the library, and at least the expenses of the speakers are paid. The first list of roll titles, comprising over 500 selections, was published in a bulletin of August, 1915.

At *Muncie* an upbuilding of the music section in the public library is in progress. Each month a few new books on music and of music are added and some publicity given in the newspapers. As soon as funds and space will permit band and orchestra music, records, and rolls will be added. Five musical periodicals are on the subscription list for this year.

At *Princeton* the interest of two teachers of music in the schools is noted at the Public Library. The collection of books about music numbers 75, fairly well selected.

The music library at *St. Meinrad Abbey*, St. Meinrad, contains 150 books on music, 700 bound volumes of music, 1,300 separate pieces, 200 player-piano rolls, and 300 records, only used by those living in the institution. Especial attention has been given to works on the Gregorian chant. Frequent concerts and phonograph programs are given, with explanatory lectures.

The *Public Library at South Bend* works with the teachers of the city and with the various associations in music study, furnishing books, making bibliographies, assisting in program making, speaking before assemblies, and generally showing that the library is willing to cooperate. The result is a steadily increasing interest in the music section, and it is hoped that both facilities and the collection itself may soon be largely developed.

The *Public Library at Tipton* has monthly lectures and lecture recitals, and some Sunday afternoon musicales, working in conjunction with the local music club. Some lecturers are paid. There are 100 volumes each of books on music and bound music and 25 phonograph records.

## IOWA.

Items reported.	Number of institutions reporting—								
	1-25	26-50	65-100	120-200	225-350	500-600	1,500	5,500	6,900
Books on music.....	14	13	9	7	5	1	1		
Bound volumes of music.....	9	2	4	1				1	
Separate pieces.....		1		1					1
Player rolls.....	1	1		1					
Phonograph records.....		1	2						
Scores.....	1	2	1						
Chamber music works.....	1			1					



Items reported.	Number of institutions reporting—						
	\$1-25	\$30-50	\$60	\$100	\$200	\$300-400	\$3,000
Acquisition cost .....			1	3	1	2	1
Annual expense for—							
Music .....	2			2	1		
Books on music .....	3	4					
Rolls and records .....	1	2					

In Iowa general music library conditions strongly resemble those in Indiana; 45 libraries report music sections, and 13 of these say interest is increasing, 7 stationary, but none report a decrease. Bulletins and special notices of accessions are frequently used. The ideal annual appropriations for music section purposes are set high, only one at \$35, two at \$100, two at \$500, one at \$700, one at \$2,000, and one at \$6,000.

The library of the *Davenport Academy of Sciences*, at Davenport, does not contain a music department, but does have some musical books. In its fairly large anthropological and ethnological collection there is considerable material on primitive music and the music of primitive peoples, with some corresponding instruments. Some material for students might also be found in the historical collections.

Annually 6,000 people use the library of the *Grinnell College* school of music, at Grinnell. This collection has 275 books on music, 85 bound volumes of music, 6,900 separate pieces of music in the circulating section, and a large supply of choir and oratorio music for college use. There are 45 rolls and 50 records, with 60 orchestral scores and 120 chamber music works. The policy has been to develop a working collection in all departments for college and music students; therefore the collection is strongest in musical literature and piano music. The annual expense is about \$200 for music, \$45 for books on music, \$35 for records, and \$10 for rolls; and there is a desire to increase the last two items. There is an effort to have the complete works of classical composers. The extension of the use of the library to other communities is limited by financial necessity, but the library will be glad to cooperate in any means which may be devised to assist in such extension of this work.

The *Public Library at Sioux City* was responsible for three years for a series of Sunday afternoon concerts, held during the winter months at the library. The past season a municipal orchestra was organized, and the Sunday afternoon concert work is carried on by this organization on a much larger scale.

The *Iowa College for the Blind*, at Vinton, has 300 pieces of music in New York point, and 500 pieces in staff notation, with 80 books on music. Music is sent out to former students.

## KANSAS.

Items reported.	Number of libraries reporting—								
	1-25	26-49	50-99	100	150-175	200	400	500	1,000
Books on music .....	2	7	9	3	2		1		1
Bound volumes of music .....	1	3					1	1	
Separate pieces .....	1	1	2						
Phonograph records .....						1		1	
Orchestral scores .....	1								
Chamber music works .....			1						

In Kansas not one of the 27 libraries reporting mentions a player piano or a roll, though phonographs and records are fairly common. The average size of the collections of books on music is fair. Six libraries report increasing interest, one stationary; the others are noncommittal, though seven libraries believe their present collections of music sufficient for the demands of the community.

In the library of the *University of Kansas*, at Lawrence, one librarian gives her time largely to the collection of 400 books on music, 500 bound volumes of music, and 50 separate pieces; 500 Victrola records are kept in a separate collection. The purchase of orchestral scores is just beginning, 20 being acquired to date, with 50 chamber music works. The policy has been to provide reference works for students; therefore the strong fields of the library are the literature of music, folk songs, songs and vocal scores of operas. The collection to date has cost \$2,500; there is an annual appropriation of \$300 from the library funds, of which \$200 is used for music and \$100 for books on music. There is an additional annual expense of \$100 for records. The library believes that \$750 could well be spent yearly on the music and books to meet the demand. Thirteen sets of music records, each accompanied by a typewritten talk on some phase of music, are sent out as traveling libraries; 288 of these programs were given in 1916-17. The printed circular of this plan has the title "More and better music for Kansas." Public-school music is receiving special attention. Books and music are loaned to high schools and clubs requesting such service.

The *Free Public Library at Salina* notes the fact that the public is just beginning to realize the possibilities of the music section. It is hoped that a good line of phonograph records may soon be installed for circulation.

The *Kansas State Normal School Library*, at Emporia, has about 1,000 books on music and 300 bound volumes of music. No fixed amount is appropriated annually for music, but \$150 is regarded as the ideal annual sum to meet the needs. Interest is increasing, and there are four calls for books on music to one for music. Traveling libraries are furnished.

### KENTUCKY.

Of the 7 libraries in Kentucky reporting music sections 6 are below 75 volumes of books on music or bound volumes of music. The seventh is the *Free Public Library at Louisville*, where the music department seems to receive special attention. Its contents are set forth in an attractive booklet of 74 pages, fully and elaborately classified. The collection includes a total of 4,000 volumes on and of music and of unbound pieces, evidently well chosen for general use and without emphasis of special departments. There are good collections of operatic vocal scores, children's songs, some two-piano music, quite a list of modern orchestral scores, music by Kentucky composers, and some books for the blind. The entire plan might well be taken as an example of successful choice and management. Music is circulated on regular library cards, so it does not figure as a separate item; 5,741 books on and of music were borrowed last year. There is a loan system with other libraries, and the public library works actively with the University of Louisville and the Louisville Conservatory of Music. Mention is made of the aid and advice of musicians and music lovers in the city.

### LOUISIANA.

Three of the four Louisiana libraries reporting a music section have considerable departments, and each of the three reports increasing interest.

The *New Orleans Public Library* aims to provide only for the general music lover. It has 300 books on music and 333 bound volumes of music; no separate

pieces, rolls, or records; \$75 annually is spent on the music department, but the library regards \$300 as the ideal sum for this purpose. Three books on music are borrowed to one volume of bound music. The library keeps in constant touch with the music teachers' association of New Orleans.

The *Howard Memorial Library of New Orleans* specializes on music by local composers or printed in New Orleans, and has 510 separate pieces in this class as a part of its general collection of Louisiana literature. In addition there are in the music alcove 223 books on music and 20 bound volumes of music. This is a reference library of 50,000 volumes, and the preference of the patrons is decidedly in favor of the books on music, for which the sum of \$20 is spent annually.

At the *H. Sophie Newcomb Memorial College* the library has 500 books on music, 600 bound volumes of music, 350 separate pieces, 244 rolls, and 25 records. This library has only been in existence eight years. It regards the collection as well balanced, with perhaps some emphasis on piano, organ, and vocal music, and biography. Two thousand dollars has been spent on the collection, and there is an annual music department appropriation of \$200 from library funds.

## MAINE.

Items reported.	Number of libraries reporting—							
	1-25	25-49	50	80-100	200	250	300	1,100
Books on music.....	10	3	3	4	2	1		
Bound volumes of music.....	4		2	1	1			
Separate pieces.....		1		1				1
Player rolls.....	2							
Phonograph records.....							1	
Scores.....	1							
Chamber music works.....	1							

Items reported.	Number of libraries reporting—								
	\$5	\$10	\$20	\$25	\$50	\$60	\$75	\$100	\$125
Acquisition cost.....						1	1		1
Annual expense for—									
Music.....	1			1					
Books on music.....		1	1					1	
Rolls and records.....								1	
Ideal appropriations.....						1	1		

In Maine a general spirit of caution seems to pervade music section expenses, as will be noted from the attached table. None of the 25 libraries reporting music sections are exclusively reference libraries, though 5 are both reference and circulating. Three report increasing interest, 3 stationary, while 17 make no comment.

The *Public Library at Auburn* has a comparatively new music section, acquired partly by gift and partly by purchase. Without making a specialty of music, certain privileges are allowed music borrowers upon occasion, and traveling libraries are furnished upon request of rural schools.

The *Bowdoin College Library*, at Brunswick, collects musical settings of Longfellow's words, and at present has nearly 1,000 such titles. Courses in music have only been instituted in the college during the past six years, during which time the bulk of the music collection has been acquired.

There are now 190 books on music, 200 bound volumes of music, about 1,100 separate pieces, 25 player-piano rolls, over 300 records, and 25 orchestral records in the library. These have been selected to further the college music courses, and the annual expense for this material is now about \$225.

## MARYLAND.

Items reported.	Number of libraries reporting—											
	1-25	26-49	50	85	165	250	300	400	500	1,000	1,500	1,800
Books on music.....	3	1	.....	1	.....	1	.....	.....	.....	1	1	.....
Bound volumes of music.....	2	.....	1	.....	1	.....	.....	1	.....	.....	.....	1
Separate pieces.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....
Scores.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....
Chamber music works.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....

In Maryland at least two of the eight libraries reporting music departments have important collections. Three are reference libraries and four are circulating or circulating and reference. Increasing interest is reported by two, and decreasing interest by one. Few figures as to cost or music department appropriations are given.

The library of the *Peabody Institute* of the city of Baltimore is separate from that of the Peabody Conservatory of Music. The former has 1,500 books on music and 400 bound volumes of music, with 300 orchestral scores. It affords facilities for serious study in the history of music and musical literature. The average number of persons using this reference library annually is 1,000, of whom 90 per cent use the books on music.

The *Enoch Pratt Free Library* of Baltimore has about 1,000 books on music, 1,800 bound volumes of music, 60 orchestral scores, and 500 chamber music works. The strong points are the collections of vocal and piano music, which afford material for serious study. On music \$75 is spent annually and \$100 on books about music, mostly from library funds proper. Concerts are given at the branch libraries, of which there are 18. About 50 lectures or lecture recitals, with unpaid lecturers, are given annually under library auspices.

## MASSACHUSETTS.

Items reported.	Number of libraries reporting—										
	1-25	26-49	50-99	100-149	150-200	250-350	400	500	600-700	1,000	Over 1,000.
Books on music.....	52	18	17	9	5	7	5	6	8	4	8
Bound volumes of music.....	12	3	7	5	1	2	4	1	2	6	7
Separate pieces.....	.....	.....	2	.....	4	3	.....	1	.....	1	5
Player-piano rolls.....	1	.....	1	1	1	.....	.....	.....	.....	.....	1
Phonograph records.....	2	.....	1	.....	1	1	.....	.....	.....	.....	.....
Scores.....	8	5	2	1	1	4	2	.....	.....	.....	1
Chamber music works.....	4	2	5	.....	3	.....	.....	.....	.....	1	.....

Items reported.	Number of libraries reporting—									
	\$25	\$26-50	\$51-99	\$100	\$125	\$200	\$250	\$300	\$500	Over \$1,000.
<i>Annual expenses.</i>										
Total for music section			2	1	2	1			2	
In addition to following:										
For music.....	4	2		4		1	1		2	1
For books on music.....	1	3	1	2						
For rolls and records.....	1	1								
<i>Appropriations.</i>										
From library funds.....		1	1	1	1		1	1		
From endowment.....				1		1			1	
From special funds.....	1					1				

The above does not include the library of Harvard University, one of the important music libraries of the United States, which failed to answer the questionnaire.

In 1913, Massachusetts reported 343 libraries with 5,000 volumes or over, somewhat over one-ninth of the total of such libraries in the United States, and exceeding New York with its 326 libraries of this size. Of these Massachusetts libraries, 142 report music sections, of sizes tabulated herewith. As usual in eastern as compared with western libraries, player-piano and phonograph material is sparsely represented; 25 libraries report increasing interest in music, 16 stationary, and only 1 decreasing. Many special features are noted in the following accounts of individual libraries.

The *Boston Public Library* is widely known for the possession of the Allen A. Brown collection, which supplements the general music collection of the library. The "music room" now contains 15,000 books on music, and 28,000 bound volumes of music. Two librarians give their entire time, and a third part time to the musical collection.

Neither rolls nor records find place in this library. There are now 4,000 orchestral scores listed. Scores of important works are purchased whenever possible, in preference to pianoforte arrangements. Chamber music works are represented to the number of 950. While the collection is intended to be as complete as possible, it is specially strong in opera scores, part songs, orchestral music, and the history of music, particularly of Boston. The catalogue of the Allen A. Brown collection is published in four volumes. About \$500 is now spent annually on music; the expense of books on music is not available as a separate item. Last year 21,000 persons used the music collection, and the interest is increasing. The inter-library loan system is used, but traveling libraries are not furnished. Six lectures or lecture-recitals are given annually, with no fees for the lecturers.

The story of the Allen A. Brown collection is told by Miss Barbara Duncan in an entertaining article in *The Library Journal* for August, 1915. From this source may be gleaned the following statements: The scores contain innumerable programs, newspaper clippings, portraits, etc., relating to the particular works. A set of volumes, indexed, contain programs, newspaper criticisms, personal notices of musicians, and all matters of musical interest in Boston during the past 50 years. A similar system has been followed for items of general musical interest. The collection of autograph scores has not been

generally followed, although the American composers Paine, Buck, Converse, Foote, Chadwick, and Gilbert are so represented. The most unique item of early American music is Francis Hopkinson's "Seven Songs" (1788), of which only one other copy is known. The operatic section of the collection is annotated as are other works, and contains many rare and valuable works.

At Boston is also the library of the *New England Conservatory of Music*. The 5,000 volumes of music and books on music are in charge of one librarian (trained as a music librarian) and two assistants. There are 14,000 actual users of the collection annually, and there are both reference and circulating departments.

The *Harvard Musical Association Library* in Boston has 9,000 volumes of music and books. Some volumes contain two to a dozen works, bound together. Orchestral scores number 400, and chamber music works 285. No specialties have been followed in making the collection, which affords opportunities for the serious student in many fields. About \$20,000 has been spent to date on the library, and there is an annual outlay of \$500 for books and music. The average number of actual users of the library annually is 600. A piano is available in the library.

The *Musical Observer* of October, 1909, contains a historical account of the Harvard Musical Association, written by Ernest O. Hiler. This reviews the organization, its objects, and achievements, in addition to the library.

The *Congregational Library*, 14 Beacon Street, Boston, has 773 books classed under hymnology; 62 of these are books on hymns and hymnists, and 711 are largely hymnals.

The proximity of the research collections at Boston and Cambridge has had an effect on the *Public Library of Brookline*, in that the latter has directed its efforts toward a general collection for popular use. It now numbers 675 books on music and 1,875 titles of music in volumes or covers. There are 17 volumes of orchestral scores and 190 volumes of chamber music. Arrangements are bought in preference to orchestral scores, largely in piano duet form, but also for solo and two pianos. One thousand eight hundred and eighty-seven dollars has been spent on acquiring the collection, and from \$25 to \$50 annually for music; 1,803 volumes of music were borrowed in 1917. With an assistant specially for the music section, it is believed the work of this department could be largely expanded to good advantage.

In the library of *Andover-Harvard Theological Seminary*, at Cambridge, 1,250 volumes on and of music, exclusively in the departments of hymnology and church music, are found. This library is administered in close affiliation with that of Harvard University, and the collections of both libraries are accessible to all students.

The *Cambridge Public Library* has 599 books on music and 801 bound volumes of music, with 116 orchestral scores and 41 chamber-music scores. The aim is to make it a "popular" collection in the best sense, and suggestions from patrons are considered. One hundred and seventy-five dollars is spent annually on the music department, but \$1,000 would be welcome, as interest is increasing. There is an endowment fund of \$5,000, the interest from which goes to the music department. Readers have the use of a piano in the library, and this is one of the few eastern libraries that hopes to add a department of phonograph records. Books, but not music, are furnished for traveling libraries.

The library of the late Francis H. Jenks, consisting of music literature and scores, the latter plentifully annotated with reviews and criticisms, was presented to the *Fitchburg Public Library*, at Fitchburg, by Herbert I. Wallace in

1905. The special catalogue of this collection is printed separately, as are two other music lists of this library. On music 972 books and 2,416 bound volumes constitute the total collection at present, with 68 orchestral scores and 236 chamber music works. The strong points are the full scores of operas and oratorios, annotated by Mr. Jenks, piano music, and piano arrangements, for two, four, and eight hands. For music \$100 is spent annually, while books are bought from the general fund. The circulation divides 60 per cent for music and 40 per cent for music books, with increasing interest in the department. The library cooperates with the State normal and high schools, also with the Woman's Club.

The *Newton Free Library*, at Newton, engaged Mr. Wallace Goodrich to select, in Europe, a representative collection of classical music which has proven adequate to the demand; 2,000 books on music, 1,000 bound volumes, and 200 separate pieces of music constitute the collection, a printed catalogue of which was issued in 1910. Music is purchased as needed from an endowment fund.

The *Forbes Library*, at Northampton, has 1,250 books on music, about 6,000 bound volumes of music, and 11,054 unbound pieces of music. One librarian gives her entire time to the music department, in which increased interest is reported. No count is kept of readers, but about 6,000 works were issued in 1916. Five hundred to one thousand dollars is counted the ideal sum for the annual purchases of the music department. There are four victrolas, with 38 records, for school use only. Orchestral scores of symphonies, with piano solo and duet arrangements, are bought; the library now has 250 scores and 20 chamber music works. There are complete editions of Bach, Händel, Schumann, Schubert, Palestrina, Beethoven, Mendelssohn, Grétry, Schütz, and the *Denkmäler der Tonkunst*. In addition, the library has large collections of songs, piano music, and vocal scores of operas. Music exhibits and local press publicity stimulate interest in the music section.

The *Smith College Library*, at Northampton, has 572 books on music, 850 bound volumes of music, 2,239 unbound pieces of music, 100 pianola rolls, and 300 records. French and German books make about one-sixteenth of the total. There are 250 orchestral scores and 40 of chamber music. Annually \$200 is expended for music and \$100 for books on music, of which sums \$100 is from library funds proper and the balance from a special fund. Interest in the collection is increasing, and the library would gladly spend \$500 annually for music and books on music. Of the calls, 20 per cent are for rolls and records; there is a piano, player piano, and victrola in the library.

The *Berkshire Athenæum and Museum*, at Pittsfield, has a good collection of "Shaker" music and a fair collection of church music. In all, there are 700 books on music, 150 bound volumes, and 200 separate pieces of music, with 24 phonograph records. Interest in the music section is growing steadily.

The *Salem Public Library* at Salem has 500 books on music, but no music. A bulletin largely devoted to the music section was published in January, 1901.

*Mount Holyoke College Library*, at South Hadley, is built up with a view to student needs, though visitors in the main library are always welcome. The collection consists of 390 books on music, 371 bound volumes, and 50 pieces of music, 12 player-piano rolls, and 150 phonograph records. So far it has cost at least \$2,000, and \$290 is annually appropriated by the college for additions. This sum is divided into an allowance of \$150 for music, \$100 for books on music, and \$40 for rolls and records. In some years \$200 or \$300 additional accrues from gifts. There are few scores or chamber-music works at present, piano-solo arrangements being preferred for practical purposes. No special line of collection has been followed, but the complete edition of Bach's works has been acquired.

The *City Library of Springfield* finds that music and books on music amount to 2 per cent of the entire library circulation. It is eighth among 19 classes, ranking higher than history, biography, or travel; 9,479 works in the music collection were taken out last year. The library cooperates with music clubs and leaders in community work. It displays notices of coming musical events in New York and Boston, as well as local affairs. The shelves are open and very accessible in a large, well-lighted room. While attendants are always ready to assist, people quietly help themselves to a surprising degree. The collection includes 1,000 titles of books on music and many duplicate copies. Whatever music is bought in sheet form is collected and bound; the music now aggregates 2,200 titles; 160 orchestral scores have been purchased to answer a demand, and there are 85 titles of chamber music works. No effort has been made to develop any one field of the collection, but it affords some opportunity for research work in the line of hymnology and glees. About \$7,000 has been spent on the music section since 1904, and there is an annual appropriation of \$550 from an endowment fund. The library has a very full general card catalogue, a title index of song and piano collections, and a praiseworthy separately printed catalogue of the music section. The library bulletin for October, 1915, was largely devoted to music, and is valuable as a suggestive list for general readers and librarians. Special lists of music appreciation and music for beginners are also published. The interlibrary loan system is occasionally used, and one lecture has recently been given as an experiment. Few library reports give more encouraging evidence of activity along sensible and popular lines so far as the music department is concerned.

The fine library of the late Frederic Louis Ritter, music historian, former professor at Vassar College, formed the nucleus of the *Tufts College Library* at Medford (post office, Tufts College). This collection is rich in older works, some in fine and rare editions, and in original books and scores of the sixteenth, seventeenth, and eighteenth centuries. There is no epoch in musical history up to 1890 which is not represented sufficiently to make possible a direct study from this material. The printed lists are sadly out of date, but the roll catalogue is more nearly complete. The printed collection is made up of 2,000 books on music, 600 bound volumes of music, and 1,400 separate pieces. The piano rolls number 1,400, one of the largest collections in the country, and are in very constant use. There are 400 orchestral scores and 50 chamber music works. All fields are well represented except music by American composers, but works of historical significance are probably the specialty. About \$75 is expended annually for additions to the music section.

*Perkins Institution for the Blind*, at Watertown, has 250 books on music, 300 bound volumes, and 10,000 separate pieces of music. Piano and vocal music, both solo and chorus, are the special fields. In addition to the regular catalogue there is a Braille catalogue and a Braille thematic catalogue of piano music. The average number of library users is 2,000 per year, and readers have the use of a piano in the library. Braille music for the blind is sent all over the United States free of postage, and the average is 700 calls per year for this privilege.

The library of *Wellesley College*, at Wellesley, is planned on general lines for students of practical and theoretical music. It now has 600 books on music, 380 bound volumes and 136 unbound pieces of music, 182 player piano rolls, and 78 phonograph records. From \$1,500 to \$2,000 is the estimated cost of this material, and there is an annual appropriation of \$130 for music and books on music, while \$25 annually, charged as a music department expense, goes to the purchase of rolls and records.

The *Whitinsville Social Library*, at Whitinsville, has but a small collection of books on music, but is marked by two unique features. One is that when scenes



from a well-known opera are given at the moving pictures, books containing the story of such operas are advertised in the local papers. The other fact is that the librarian loans four-hand arrangements of standard orchestral compositions to study clubs from a personal collection.

In the library of the American Antiquarian Society at Worcester are 1,000 books on music and psalmody, nearly all published in the United States before 1870.

The *Free Public Library at Worcester* has 600 books on music (practically all in English), 1,400 bound volumes of music, and 800 unbound pieces, with 10 orchestral scores. A printed catalogue of music was issued in 1906, and a special card catalogue is placed in the music alcove. Over 6,000 persons use the music department annually, and the relative percentages are 60 per cent for music and 40 per cent for books on music. Three branch libraries have small music collections. Lack of space in the antiquated main library building prevents an extension of the music work.

### MICHIGAN.

Items reported.	Number of libraries reporting—												
	1-25	26-49	50	75-99	100	125-150	200	250	300-400	500	800	1,200	2,000
Books on music.....	9	3	6	3	3	4	2	1	1	4		1	.....
Bound volumes of music.....	8	2	2	1	.....	1	1	1	.....	.....	1	.....	.....
Separate pieces.....	1	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	1
Phonograph records.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Scores.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....
Chamber music.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....

In Michigan, 41 libraries report music sections, rather above the average in size, but only 5 libraries can estimate the cost of the material, and in no case stated is it above \$500. Eight libraries report increased interest in music, seven stationary, and none decreasing. One library reports an annual expenditure of \$125 for rolls and records, and five others (all that mention the subject) have an annual expense of \$25 for music department purchases.

The library of the *University of Michigan*, at Ann Arbor, has followed the policy of avoiding works of only passing interest. There are now 333 orchestral scores in the library, and special stress will be laid on this division. There will also be a demand for books of research value in the future. There are 230 titles of chamber music works, mostly with parts. By request about 1,500 titles, including orchestral scores, historical works on theory, etc., and a large number of chamber music works, will eventually become available. The present collection includes 1,237 books on music and 3,839 bound volumes or titles of music. History, bibliography, and theoretical works make the largest group in the books on music, while piano, orchestral scores, chamber music, anthems, and part songs are the strongest in the music class.

The *Detroit Public Library* will soon occupy a new building, in which ample accommodations have been reserved for a department of drama and music. Under the conditions heretofore prevailing, accommodations for special departments were not available, and no special attention could be paid to the music section.

To the *Public Library at Grand Rapids* was presented the library of the late Mrs. Charles B. Kelsey. A substantial gift of music and vocal scores of operas was made by the civic music committee of the association of commerce,

and donations have also been made by local musicians. Altogether there are now 700 books on music, 50 bound volumes of music, and about 150 pieces. No separate account is kept for music-department expenses, but the library would like to spend \$250 to \$500 annually on this section. The interest is increasing, and, with a larger collection, there would be much greater use. The library bulletin for March, 1917, contains a list of the music, but not of the books on music.

## MINNESOTA.

Items reported.	Number of libraries reporting—										
	1-25	26-49	50-75	100-150	200-300	350-550	1,000	1,400	1,600	2,000	2,350
Books on music.....	3	1	6	5	3	2			1		1
Bound volumes of music.....	3		1	1	2	1	1				
Separate pieces.....			1				1	1		1	
Player piano rolls.....			1	1							
Phonograph records.....			2	1		2					
Scores.....	2	1	1								
Chamber music works..	1				1						

The outstanding feature of the reports from 22 Minnesota libraries with music sections is the fact that 10 libraries believe their musical collections inadequate, and 11 the sums available too small to meet the demands of the community; 12 report increasing interest; 4, stationary; none decreasing. Only 6 make use of special means to advertise the music departments.

The *Public Library of Minneapolis* has a separate room for the music department, with two librarians devoting their entire time to music. There are 1,600 books on music, 1,040 bound volumes of music, and 1,496 separate unbound pieces; 85 orchestral scores and 285 chamber music works are listed. The aim has been to provide a collection for general use without specializing, but the divisions of biography, chamber music, children's music, songs, piano, vocal scores of operas, and church music are regarded as the strongest points of the section. About \$400 yearly is spent on music and books on music. The interest is increasing, and in 1917 the circulation was 12,555, 31 per cent for music and 69 per cent for books on music. For annual needs \$800 to \$900 is regarded as an ideal sum, probably divided equally between music and books. Rolls and records have not yet been introduced, but it is hoped that such a department may soon be created.

A good example of local music club interest in a library is furnished by the Schubert Club of St. Paul, which recently transferred its music collections to the *St. Paul Public Library*. The same club gave a performance of Sullivan's "Iolanthe" for the benefit of the library music department, and the proceeds were devoted to the purchase of additional music. There are now shelved 1,159 volumes, books and music, and there are 396 phonograph records, the entire cost being about \$1,200.

The *Stillwater Public Library*, at Stillwater, has 150 books on music, a Victrola, and 75 records, but no printed music. When operas are given in the neighboring city of St. Paul, the Stillwater library offers special lectures on the operas to be given. Both these lectures and the Sunday afternoon Victrola concerts at the library are popular.

A somewhat similar plan is followed at the *Virginia Public Library*, Virginia. There are 115 books on music, two Victrolas, and 250 records. A Victrola concert, with a 1-hour program, is given each Sunday and holiday, the programs

being published in the two daily papers. A recommendation has been made to introduce a music collection.

The *State Normal School Library at Winona* has 100 books on music, 200 bound volumes of music, and over 1,000 unbound pieces. In addition are 50 player-piano rolls and 125 phonograph records. This material has cost about \$2,000, and \$150 annually is spent for music, \$25 for books on music, and \$25 for rolls and records. These sums are deemed insufficient, \$500 being suggested as the ideal yearly appropriation to meet the needs of the case. Special attention has been paid to the field of folk song and music education in the public schools.

### MISSISSIPPI.

Four libraries from this State report music collections, two of 25 books on music and two of 50. One has 75 bound volumes of music, another 1,000 unbound pieces of music and 24 phonograph records. There seems to be an almost total lack of music-section statistics or interest.

### MISSOURI.

Ten Missouri libraries report music sections. Two have 50 books each on music, three 90, two 300, one 400, and one 1,500. Two have 25 volumes each of bound music books, one 200, one 870, one 1,000 (evidently chorus books are included), and one 3,903. One library has 3,500 player-piano rolls, another 600, another 30; there is no mention of phonographs. Little statistical information regarding expenses and appropriations is given beyond that itemized below.

The *Public Library of Kansas City* has 1,200 books on music, not including musical biography. There are 870 bound volumes of music, no unbound pieces, and 600 player-piano rolls, while 30 orchestral scores are listed. The collection is strongest in vocal scores of operas and books on music. There is no division into a music section, so separate figures are not available. Interest in the collection is reported increasing.

In the library of *William Jewell College*, at Liberty, is a collection of probably 350 volumes of hymns and books on hymn writers, largely assembled by the late Rev. C. H. Spurgeon, of England, whose private library is now in this college.

The annual reports and monthly bulletins of the *St. Louis Public Library* indicate special attention to the music section. The reports contain valuable suggestions to librarians, especially with regard to the handling of music-roll circulation, while the monthly bulletins are illuminated by occasional well-chosen notes regarding books or music. Evidently music is not treated in a perfunctory way in this library. There are now 300 books on music and 3,903 bound volumes of music, with no unbound pieces. The policy is to buy collections of printed music in general preference to single pieces; 3,500 pianola rolls have been acquired by donation. Miniature orchestral scores are the only kind purchased, and of these the library now has 124. There are 102 works of chamber music. Vocal scores of operas, songs, piano, violin, and church music are the fields most strongly represented. The collection is intended for general and popular use, and only incidentally affords research facilities. The card catalogue presents a thorough analysis of collections; the reports and bulletins have already been mentioned. In addition special publicity is accorded the music section in newspaper and other mediums. The expenditure to date is \$5,000. The annual outlay for music, from library funds proper, is \$500 to \$1,000. Books on music are bought with other books, and no separate account

is kept. The interest is increasing, with a music circulation of 4,565 last year, and no record of books on music. The size and character of the collection is not regarded as sufficient, and though it possibly meets the demands of the community, the library does not believe it meets the needs; \$2,000 would be an ideal annual sum to spend on music and books on music. Music amounts to 0.23 per cent of the total circulation; no separate record is kept of the books on music, and the rolls figure 1.06 per cent of the total circulation. Inter-library loans include music, and traveling libraries are furnished, but music is seldom included.

### MONTANA.

As is the case with some other States, music library statistics from Montana seem difficult to obtain, but the average music section in Montana is by no means neglected. Eight libraries report musical collections. One has 25 books on music; three between 30 and 60; one 95; and one each 150, 400, and 500 volumes. Three have not over 25 bound volumes of music, and one 55. Phonographs and player pianos are not mentioned.

The *Public Library at Helena* is just starting the music section. It has 400 books on music and 55 bound volumes of music. A mimeographed list includes some of the latest and best publications, and is a useful part of a publicity scheme. There has been spent on the collection \$1,200, and no fixed sum is appropriated for annual increase.

### NEBRASKA.

So far as the libraries are concerned, there seems to be little enthusiasm for music in Nebraska. Eleven libraries report music sections, and eight of these have not over 50 books on music. One library has 260 volumes, another 350, and another 500. Four libraries have bound volumes of music, but the largest collection is 80 volumes. Statistical figures are almost entirely lacking.

The *Omaha Public Library* has 500 books on music, 50 bound volumes of music, and 50 unbound pieces. The collection seems to be due largely to the musicians of the city, for the money spent on it has been given by the various musical organizations. A fair proportion of these sums has been devoted to the purchase of books and opera scores too expensive to be acquired by the average book borrower.

### NEVADA.

One report from this State comes from the library of the *University of Nevada* at Reno, and the sum total of the information transmitted is "Our music shelf is about 6 feet long." The other report, from the *Reno Free Public Library*, reports 100 books on music and 30 bound volumes of music, but the library feels that \$150 annually would be well invested in the music section.

### NEW HAMPSHIRE.

Items reported.	Number of libraries reporting—							
	1-25	26-49	50-75	100	230	500	800	1,800
Books on music.....	11	2	2	5	.....	2	1	.....
Bound volumes of music.....	6	2	1	.....	2	.....	.....	1
separate pieces.....	.....	.....	.....	.....	.....	1	.....	.....
Phonograph records.....	.....	1	.....	.....	.....	.....	.....	.....

From New Hampshire 24 libraries report music sections with collections of the size tabulated herewith. No player-piano rolls are reported, likewise no orchestral scores or chamber music. Four annual expenditures for music departments are given—\$25, \$45, and two of \$50. Increasing interest is reported from five libraries, stationary one, and variable one.

The music section is an innovation of the last three or four years in the *Public Library at Manchester*, but it appears to be making a promising beginning. The collection now includes 500 books on music (66 of these are librettos), 230 bound volumes of music, and 515 separate pieces. Newspaper publicity is used for accessions. On the collection \$700 has been spent, and the annual outlay for music and books is, respectively, \$50 and \$25. Interest is increasing, and the library would like to spend \$400 annually on music and books, with preference to the music.

The *Public Library of Rochester* reports the demands on the music section largely due to the influence of the music teachers, and that a larger music library would be installed if funds were available. The present collection is 114 books on music, with no music rolls, or records.

### NEW JERSEY.

Items reported.	Number of libraries reporting—									
	1-25	26-50	75-100	150-200	250-350	500	750	1,000-1,200	1,800-2,000	2,900
Books on music.....	8	7	5	2	3	1	1	2	1	
Bound volumes of music...	4		1	3				1	1	1
Separate pieces.....	2			1				1		1
Scores.....	2		1					1		
Chamber music works.....	2			1						

New Jersey is another State in which the libraries confine themselves strictly to books and printed music. No rolls or records are mentioned in the reports from 31 libraries, though these are rather above the average size. Six say the interest is increasing, 3 stationary, and no decrease is reported. One library has an annual expense of \$65 and another \$100 for music, while two spend from \$20 to \$50 a year for books on music. Beyond these figures little is reported in the way of annual expense.

Church music is the special field of the library of *Drew Theological Seminary*, at Madison. An endowment fund provides \$50 annually for the purchase of books on hymnology; 750 books on music and 2,000 bound volumes of music are now in the library, hymnals being in the ascendancy.

The *Newark Free Public Library*, at Newark, catalogues its songs both by title and first line, and this unique index includes some 15,000 cards. There are 900 books on music, exclusive of individual biographies of musicians, 2,900 bound volumes of music, and about 5,800 part songs. As yet not much has been done toward the acquisition of full scores, piano arrangements being deemed more desirable for the present, but there are 200 titles in the chamber music collection. The largest factors in the music collection are songs, piano music, and chamber music. The library favors the publication of short lists and circulars to interest the average reader and music student, and has produced some clever features in this way. Newspaper publicity is also used. It is the policy of the library to bulletin local and New York musical affairs of importance, and to feature special magazine articles on music. A rough estimate of the expenditure on the music section is \$1,500, and about \$100 annually is

spent in this department. The average yearly circulation is 5,000 volumes, with increasing interest. The library would like to spend \$200 a year on the music section, with an extra \$300 for development plans and advertising. Two books on music circulate to one volume of music.

The finding list for the music library of *Princeton University*, at Princeton, is a bound volume of 93 pages, published in 1909. It is issued in "title-a-line" form, pending the preparation of a full printed catalogue which will eventually be incorporated into the general finding list of the university library. The collection of books on music numbers about 1,800 titles, bound volumes of music 1,100 titles, and there are about 8,700 unbound pieces of music. Orchestral scores total 95 volumes, chamber music works 12 volumes. Between \$2,000 and \$3,000 is the estimated expense of the collection, in addition to generous gifts. The annual outlay for music and books on music is \$65 from the library fund proper. Interest in the music library is increasing, and a professorship in music has recently been created in the university.

## NEW MEXICO.

The two reports from New Mexico libraries are distinguished by their brevity. One library has 10 books on music, but believes a music department would be well patronized if a music fund were created. The other library has 35 entries under music headings, which are regarded as sufficient for general reference purposes.

## NEW YORK.

Items reported.	Number of libraries reporting—								
	1-25	26-49	50-99	100-149	150-200	300-500	600-800	1,000	Over 1,000
Books on music.....	31	11	15	8	8	9	3	.....	9
Bound volumes of music.....	13	4	3	1	1	4	1	2	7
Separate pieces.....	.....	4	1	1	1	.....	.....	.....	6
Player-piano rolls.....	.....	1	.....	1	3	2	.....	.....	.....
Phonograph records.....	.....	1	2	2	1	.....	1	.....	.....
Orchestral scores.....	1	5	2	3	.....	.....	.....	1	1
Chamber music works.....	.....	1	.....	2	1	2	.....	.....	.....

Items reported.	Number of libraries reporting—										
	\$1-\$25	\$26-\$49	\$50	\$75	\$100	\$125	\$150	\$175	\$200	\$500	Over \$1,000
Acquisition cost.....	1	.....	2	1	.....	2	1	.....	.....	2	6
Annual expense for—	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Music.....	1	1	.....	2	.....	1	1	1	1	1	.....
Books on music.....	2	.....	2	.....	4	.....	.....	.....	.....	.....	.....
Rolls and records.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
Library fund appropriation.....	.....	.....	1	.....	1	.....	.....	.....	.....	1	.....
Endowment fund appropriation.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Special funds.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Ideal appropriation.....	4	.....	1	.....	1	.....	.....	.....	2	2	1

<sup>1</sup> Includes music, books, rolls, and records.

New York State, with 826 libraries of 5,000 volumes or more, is second only to Massachusetts, with its 343 such collections. Music sections are reported by 104 libraries, and the collation of the reports brings to light some interesting points. Over one-half would be classed as small musical collections, the middle

ground is rather sparsely filled, and there are some magnificent collections. Seven libraries report player-piano rolls, and the same number provide phonograph records. Orchestral scores are fairly plentiful, but chamber music is not so well represented. Only eight libraries report considerable acquisitions by gift, and not one reports interest in the suggestions of music dealers or publishers. Comparatively few libraries have annual appropriations for the music section, and these are relatively small sums; 21 libraries report increasing interest, 14 stationary, and none a decrease; 17 libraries believe their reports do not represent the community's interest in music, while 5 report affirmatively; 14 believe the music department expenditures inadequate, 21 are content with the past record, 11 think the demands of the community exceed the libraries' musical resources, 19 take the opposite view. The ideal annual appropriation for music, if mentioned, is usually small; one library considers \$10,000 the ideal sum, and another wants "as much as we can get"; 20 libraries would add to books on music, 16 to the music, and only 2 would invest in more rolls or records. Six libraries have a piano in the library, 3 have player pianos, and 5 have phonographs. Five libraries have lectures or lecture-recitals under library auspices, and the lecturers, except in one instance, are paid.

*Wells College Library*, at Aurora, has 1,349 books on music, of which 348 are biographies and 828 bound volumes of music. Exactly 600 books are in foreign languages. There are 29 orchestral scores and 208 of chamber music. Five thousand three hundred and sixty dollars has been spent on the acquisition of the collection, and there have been many fine gifts. The annual appropriation, from library funds, is \$400, which is regarded as sufficient for the needs of the institution. Suggestions for purchase are made by the college music department, and there is a preference for complete editions.

The *Public Library at Binghamton* has a total of 470 volumes of music and books on music. A neat booklet entitled "Music and Musicians" is the finding list up to 1917. Newspaper notices of new accessions are written by members of the library staff and include short descriptive notes. The cooperation of a local organist and teacher, Francis J. O'Conner, in the building of the collection is noted.

The *Public Library of Brooklyn* has a new building in process of construction and expects to develop its collection "along definitely helpful lines" with the new facilities. The library now has about 1,500 books on music and 6,000 volumes of bound music. As separate statistics are not now kept for music, little can be said about the circulation, but interest is increasing, and during the musical season there are not sufficient copies of operas, etc., to meet the demand.

The *Public Library of Buffalo* has never been able to enter the field of music to any extent excepting to supply books on music. It has cared for and catalogued gifts of music and has purchased some items at patrons' request. The collection now includes more than 1,300 books on music, including many duplicates, more than 1,400 bound volumes of music, 138 pamphlet librettos, and 78 bound librettos. The unbound pieces of music number 2,925 titles, and include 23,200 pieces, counting each vocal and instrumental part and duplicates. Several musicians and musical associations have presented the library collections of music. There are 88 titles of orchestral scores and orchestral parts for 72 operas and oratorios. Chamber music works for three or more instruments number 11. The collection of violin music is preponderantly strong, songs, vocal scores of operas, and church music are also strong fields. The library is fully catalogued, special gifts are noticed in annual reports, publicity is given through

newspaper articles, and special lists are furnished for music festivals and musical evenings. Interest is increasing, and though the present collection may meet the demand of the library, it does not meet the demand of the community, and there is a great field to be developed if means were provided. The library regards the demand for books as the first consideration.

The library of *Canisius College*, Buffalo, is of a private rather than a public nature. It is a fairly extensive collection of works in almost every field of music, particularly strong in church music and music for orchestra, with a rather complete collection of standard hymnals.

The music division of the *New York City Public Library* is well described in three articles furnished by the library.

The music division of the New York Public Library consists of two separate parts. The first part is the Joseph W. Drexel collection, privately founded in 1858 by Mr. Drexel, of Philadelphia, by the purchase of a very complete and rich collection of music, books relating to music, autographs of famous musicians, portraits, etc., which had been the property of Mr. H. F. Albrecht, member of the Germanic Musical Society, who spent over 13 years (1845-1858) in various countries, busy with the formation of this collection. Later on the collection was enlarged by the addition of the music library of Dr. R. La Roche, consisting of works in English and French; also rare books in Latin and Greek languages, and also by the importation of books from Europe, especially Dr. Edward Rimbault's library, from which several important works were purchased by Mr. Drexel in London at an auction. Thus this collection came to contain musical writings from the sixteenth, seventeenth, and eighteenth centuries in German, English, French, Italian, Spanish, and Dutch, including the history of music, the biography of celebrated musicians, dictionaries of music, the theory of musical composition, instruction books for voice and instruments, works on acoustics or the science of sound, essays on musical expression, musical journals, reports and contributions of musical societies, almanacs, descriptions of musical festivals, musical travels, musical novels, etc. The total collection was presented to the Lenox Library by Mr. Drexel in 1888 and was transferred with the Lenox Library to the new building at Fifth Avenue and Forty-second Street.

The second part of the music division is formed by the books and practical music formerly in the Astor and Lenox Libraries, some of these books are duplicates or different editions of works contained in the Drexel collection, but the larger parts consist of literature and music from about 1850 up to date, formed by steady purchases by the library administration and by gifts from various persons.—*Edward Silsky*, on "The Music Division of the N. Y. Pub. Library," in *Proc. Music Teacher's Nat. Assoc.*, 1914, No. 9, pp. 211-212.

While the Lenox Library's chief interest as a music library lay in the Drexel collection, it did not refrain entirely from adding to its shelves a few books on music and important compositions published after Mr. Drexel's death. At the same time the Astor Library was buying such music and books on music as it believed were very important, like the *Paléographie Musicale*, some of the publications of the *Plainsong and Mediæval Society*, *Eitner's Publikationen alterer Musikwerke*, *Maldeghem's Tresor Musical*, and the *Denkmäler deutscher Tonkunst*; also many of the complete editions of the classic masters and some important files of American and European musical periodicals. One of the most important purchases was made in 1896, when the New York Public Library bought a collection of Italian opera librettos, a few of which date back to the end of the seventeenth century. Those of the eighteenth century are more numerous, and the rest run along well into the nineteenth century. The most interesting single group in the collection contains 693 librettos of the operas and ballets performed at the two royal theaters in Naples between 1821 and 1865. The whole libretto collection embraces 134 volumes, containing in all 1,408 librettos, of which 367 are before 1800. An interesting supplement to the librettos was purchased at the same time; 20 bound volumes of daily programs giving the title and cast of the opera, ballet, or play to be performed in each of the 10 or more theaters of Naples each day from 1839 to 1859.

The Astor and Lenox collections were united in the Lenox building in 1898 and were transferred to the new building at Fifth Avenue and Forty-second Street in 1911. The present music division, thus established, could point to a



library of musical books which contain, besides the Drexel collection, a complement to this collection quite as large again as the original bequest, and which, although by no means complete, or anywhere near complete, not even as nearly complete as one would expect in a city which devotes as much of its time and money to music as New York does, affords nevertheless some opportunity for the serious study of musical literature, and furnishes a sound basis for a future expansion which will bring the collection up to a standard which may adequately satisfy the needs of a city like New York.—O. Kinkeldey, on "*The N. Y. Pub. Library and its Music Division*," in *Lib. Jour.*, vol. 40, No. 8, pp. 591-592.

The New York Public Library has just received [1914] a very valuable gift for its music department in the Julian Edwards collection of music scores and books.

The Julian Edwards collection \* \* \* consists of 90 full scores of operas, 150 full scores of cantatas, concertos, oratorios, overtures, suites, etc.; 300 vocal scores, and about 325 books on music, musical instruments, composers, etc.

The strength of the whole collection [i. e., the music division] is, therefore, mainly historical, and the books on the shelves have served as the source for extended and steadily increasing investigations, but the limited appropriations for the music division have enabled it to do little toward providing investigators with the music publications of the last 50 years.—*Esther Singleton*, in *N. Y. Tribune*, Nov. 8, 1914.

Taking up the report of the reference department of the New York Public Library first, there are now in the collection 12,400 books on music, 7,079 bound volumes of music, and 4,105 unbound pieces of music. Four librarians give their entire time to the music section. Following the policy of purchasing orchestral scores, about 1,000 have now been acquired. The general collection is fairly well balanced throughout, specially rich in old music and vocal scores of operas. Scholars are offered a field for research in the Drexel collection relating to the sixteenth and seventeenth centuries. The annual outlay for music and books on music is \$600, from library funds proper. Interest is increasing; the average use of the music section for five years from 1912 is 13,234 readers and 36,198 volumes, and this is in the reference department as distinct from the circulation department. Music and books on music are equally popular; \$10,000 is regarded as the ideal sum for the annual purchase of these two items, for the present size of the collection and appropriation are deemed insufficient.

The 44 branches of the New York Public Library each have music collections of varying sizes; 5,000 books on music and 13,000 bound volumes of music are thus disposed, with 35 miniature orchestral scores and 125 chamber music works. The general collection of books on music is strongest; then follow piano music and opera. The interest is increasing; in 1916, 57,470 volumes of music were circulated.

At the *Columbia University Library* in New York City are found 6,500 books on music, 1,500 bound volumes of music, 3,000 unbound pieces of music, and 100 player-piano rolls; 2,000 orchestral scores are listed, as the strongest single feature of the library; these are purchased in preference to pianoforte arrangements. The library is also strong in vocal scores of operas, and has 100 chamber music works. Catalogue, bulletins, newspaper notices, and programs are used as publicity mediums. About \$15,000 has been spent on the collection, and there is a music-department fund of \$150 annually for music and \$50 for books on music. About 2,500 persons annually use the collection, and the interest is increasing. The library does not feel that the sums available are enough to supply the demand, even in view of the proximity of other libraries, and would gladly see the appropriations much increased. If this were the case music would have preference over books, for two music titles are called for to one book on music.

The *Institute of Musical Art*, 120 Claremont Avenue, New York City, has both a reference and circulating library. In the former are 1,710 books on music and 766 bound volumes of music; in the latter 828 bound volumes of music and 13,769 unbound pieces of music. The circulating library was founded by G. Schirmer about 1872, and donated by Mr. Rudolph E. Schirmer to the Institute in 1905. There are few orchestral scores, but 540 chamber-music compositions. No annual appropriations are made, and there are no library funds. Interest is increasing, and in 1917 there were 3,600 actual users of the library. Students and others may avail themselves of the library privilege upon the payment of a small annual fee.

The *Metropolitan Museum of Art*, in New York City, has a remarkable collection of musical instruments, but no collection of music. In the library of the museum there are about 200 volumes relating to instruments. There is no way of determining how many persons make use of the books of reference. The catalogue of keyboard musical instruments in the Crosby Brown collection, published in 1903, is a handsome volume of 313 pages, with valuable comment and remarks, and many excellent illustrations. The price of this book is \$1. A complete rearrangement and revision of the catalogues of the Crosby Brown collection of musical instruments is now in progress, and the completed work will be published in four volumes. Of these Volume II is now published. It is by Miss Frances Morris, assistant curator in the department of decorative arts. Finely illustrated and profusely annotated, this book of 333 pages (50 cents) is one of the most interesting catalogues imaginable.

The *New York Institute for the Education of the Blind*, 412 Ninth Avenue, New York City, has 300 books on music in ink print and 250 in New York point, with several thousand unbound pieces of music and 30 player-piano rolls. The collection of books is strong in the theory and practice of music, and the music collection in classic teaching pieces. In this school for blind boys and girls the effort is made to train to good taste as well as proficiency in music. No figures are available regarding expenses of the music library, which is considered sufficient for the purpose. About 500 persons use the library each year. This institution publishes much of the music in the New York point system used in the United States, and sells publications at cost to any blind people desiring them; 47 well-selected piano pieces and 3 organ pieces were put into New York point in 1916-17, at prices ranging from 3 to 21 cents each.

The *Hispanic Society of America*, in West One hundred and fifty-sixth Street, New York City, has rather an extensive collection of music, much of which is in old manuscripts and is liturgical in character. This has not yet been catalogued and made available for readers, but several important works on popular songs of Spain and Spanish America are available.

The *General Theological Seminary* in New York City has a fairly extensive collection of church music and other musical material of an ecclesiastical nature.

The *University of Rochester*, at Rochester, has the Sibley Musical Library, established in 1904 by Mr. Hiram W. Sibley, of Rochester. The catalogue and first supplement, bringing the list up to 1909, form a neat booklet of 132 pages, and a mimeographed list is dated 1912. Since then few books have been added, but collecting will be resumed when increased library facilities are afforded; 800 books on music and 1,200 bound volumes of music constitute the present collection. Two-hand piano arrangements of orchestral works are preferred to scores, of which latter there are 30. The collection of chamber music works is notably strong, 500; and there are many vocal scores of operas and books on the history of music. The estimated cost of the collection is \$7,500.

The interest is increasing, with 2,500 annual users of the library. For keeping the library up to the demand of the community, \$300 annually is regarded as an ideal sum; and the preference would be to buy books on music, as this department has fewer recent accessions. The present use of music is 80 per cent, and books on music 20 per cent, of the music-section use. Note is made of the patronage of the collection by musical people of the city, despite an unfavorable location.

The *John Jermain Library*, at Sag Harbor, has a small collection of books on music, but interest seems to center around a newly-purchased victrola and collection of records. In a village of 3,000 the monthly circulation of records exceeds 400. Last winter the library engaged six lectures, the expense being met by the endowment fund.

At the *Public Library*, Syracuse, is a collection of 601 books on music and 1,031 bound volumes of music, with 20 orchestral scores. Vocal scores of operas, songs, and piano music are the preponderating features. The interest is increasing, and the library expects to add to the collection, especially in the line of music.

The *Public Library at Utica* has 500 books on music and about 500 bound volumes of music with 20 orchestral scores. New accessions are listed in the newspapers, and a general publicity scheme is followed. The annual expense is \$175 for music and \$105 for books on music. With slightly increasing interest, about 3,400 people used the music section last year. The nucleus of the collection was placed in the library by a local music club. In March, 1917, a special room was assigned to the music section and considerable addition to it is planned.

#### NORTH CAROLINA.

Nine North Carolina libraries report music sections. Five of these have not over 50 books on music; two have 100, and two have 200 each. Two libraries have 25 or less bound volumes of music, and one 50. One library has 75 phonograph records. It is encouraging to note that four of these libraries declare the appropriations for music and the resources of the library inadequate to the situation, and three report increasing interest. In no case is the annual outlay for music over \$30, or for books on music over \$25.

#### NORTH DAKOTA.

Two of the seven libraries in this State reporting music sections report increasing interest; three do not mention the subject. There are two collections of 50 books on music and two of 75. One library has 100 phonograph records. In general the subject of music does not seem to interest the libraries of the State.

At the *University of North Dakota* the combined libraries of the university and of the director of music, Grand Forks, include 500 books on music; 100 bound volumes of music; and 5,000 unbound pieces; also 50 planola rolls, and 300 records. There are 30 orchestral and 5 chamber-music scores. So far about \$2,500 has been spent on the collections, in which there is increasing interest, and which is used throughout the State by an interlibrary loan system.

## OHIO.

Items reported.	Number of libraries reporting—									
	1-25	26-49	50-75	100-150	200-250	400-550	600-700	900-1,100	1,600-2,000	2,500 and over.
Books on music.....	17	3	6	8	8	1	1	2	1	1
Bound volumes of music.....	4	1	1	3	1	4	1	1	1	3
Separate pieces.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Player-piano rolls.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Phonograph records.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Scores.....	2	.....	1	1	1	.....	.....	.....	.....	.....
Chamber music works.....	1	2	2	.....	.....	1	.....	.....	.....	.....

The average of music sections in Ohio libraries is encouraging. The general collections seem to be of fair proportions, though none can be placed among the great collections of the country. A rather unusual condition is that 16 libraries prefer to add books on music as compared to 11 which would add music. Eleven libraries consider their music department funds inadequate, and 12 libraries believe the department fails to meet the needs of the community. As ideal sums for the music section, two libraries suggest \$25 annually, one \$40 to \$50, one each \$100 and \$400, two \$300, two \$500, while one library would like to have \$750 for music and \$250 for books on music. Increasing interest is reported by 14 libraries; 6 report stationary; 15 make use of special publicity for the music section in addition to catalogues and bulletins; 52 libraries in all have reported as having music sections.

In place of a more detailed report the reference department of the *Public Library of Cincinnati* has submitted the following statement:

The music collection in the Public Library of Cincinnati contains books on music, a few orchestra scores, a large number of piano arrangements of orchestral music, concertos, and chamber music; and a considerable library of choral music and part songs for men's voices, women's voices, and mixed voices. The large collection of choral music was acquired by gift from two choral societies and a musical club which presented their entire libraries to the public library. The collection of sheet music is selected to meet the demands of the patrons of the Cincinnati Symphony Orchestra concerts, the May musical festivals, and other artist concerts given in Cincinnati each year. As far as possible all compositions represented on these programs are added to the library and circulate in the same manner as books belonging to the library. The music rolls belonging to the collection were acquired by gift and include only good music; ragtime and undesirable compositions are not added to the collection. The policy of the library is to include in the collection of books on musical history and criticism practically all publications in English of real value on the subject.

The library of the *Cincinnati College of Music* has 300 books on music, 300 bound volumes of music, and 10,000 unbound pieces of music, with 200 orchestral and 300 chamber music scores. The acquisition cost is about \$6,000, and the annual outlay \$200 to \$300, from an endowment fund; 500 users are reported, with increasing interest, and the library would like to spend \$500 annually on music.

The music alcove in the *Public Library at Cleveland* has the entire attention of two librarians and a page, with occasional further assistance. There are 1,100 titles of books on music, with many duplicates, and 1,150 bound volumes of music, the total with duplicates being 1,600. Unbound sheet music only

amounts to 75 pieces, and there are no rolls or records. There are few orchestral scores, as practically all the purchases so far are confined to piano arrangements, but 329 scores are deposited on loan. The library has 47 chamber music works. Special features are vocal scores of operas, oratorios, and cantatas, folk music, song albums, piano solos and duets, organ and violin music. Research work might be done in the collections of folk music and ballads. From \$200 to \$400 yearly is spent on music and books on music. About 4,600 persons use the music department annually. Interest is increasing, but the growth of the collection is so recent that comparatively few people have learned to depend on it as yet. Music rolls will be purchased only after full justice is done to the book and music collections. The borrowers of music are two to one book borrower. The collection is used considerably by music teachers, but more by music students and by amateur musicians, who use it for recreation, the two latter groups being about equally divided.

The *Elyria Library*, at Elyria, is situated so near to Oberlin and Cleveland that a large collection of music seems inadvisable, if it were practicable. The library has about 400 books on music, but no music. History, opera, and folk song are best represented. An effort is made to keep library patrons informed regarding musical progress.

The *Denison University Conservatory of Music* library, at Granville, has 900 books on music, 400 bound volumes of music, and about 3,000 unbound pieces, with 200 player-piano rolls and 50 records. A piano, player-piano, and phonograph are available in the library. An unusual feature is the presence of 30 primitive musical instruments. The main features of the book collection are works on opera and music up to the time of Bach. For the last 10 years at least \$150 has been spent annually on music and \$100 on books.

The *Oberlin College Library* at Oberlin has about 2,500 books on music, 500 bound volumes of music, 25,000 unbound pieces, 225 player-piano rolls, and 150 records. There are 125 orchestral scores and 75 chamber-music works. The outstanding feature of the library is the collection of books on the history of music. Next to this is musical biography and music for piano and voice. About \$5,000 has been spent for books on music and \$15,000 for music, the annual appropriations being \$150 and \$400, respectively, from library funds proper. Interest is increasing, and about 15,000 persons use the music collection annually. A larger collection seems warranted in view of the situation, and the library would like to spend \$750 annually on music and \$250 on the literature of music.

A collection of 500 player-piano rolls is found in the *Public Library at Toledo*. The books on music number 600 and bound volumes of music 150. Financial considerations prevent specializing in music for the present. Later it is hoped to make substantial increases in view of the circulation of the present material.

#### OKLAHOMA.

Six libraries from this State report music sections. Three have collections of 25, 35, and 60 books on music, one 100, one 200, and the sixth somewhere between 500 and 1,000. The two more important reports are detailed below. In general, there appears to be more enthusiasm about music and music libraries than in many other States.

The library of the *State University of Oklahoma* at Norman has between 500 and 1,000 books on music, 100 bound volumes of music, about 50 unbound pieces, 50 player-piano (orchestrelle) rolls, and 300 Victrola records. Full scores number about 100, and additional purchasers are planned, pianoforte arrange-

ments of each score being provided. There are about 50 chamber-music works. In addition to the two classes just mentioned, the library has good collections of vocal scores of operas and theoretical works. Opportunity is given for research work in primitive music. Few works have been acquired by gift, and the acquisition cost is about \$3,000. Lately the annual expense for music has been about \$500, books on music \$200, and Victrola records about \$300, and the library would gladly see this sum considerably enlarged. Interest is increasing, and a larger music section is confidently expected to bring a larger patronage.

The music collection in the *Carnegie Public Library at Shawnee* includes 25 books on music and 75 vocal scores of operas. Three music journals are on the subscription list. There is a piano in the library, and evidently a sincere interest in doing as much for music as finances will permit.

### OREGON.

Five libraries from this State report music sections, and the State reports have the rather unusual distinction that no collection of less than 100 books on music are mentioned. One has 100 books, one 150, one 300, one 1,044. No library reports its musical collection adequate to the demand, three designate increasing interest, and three have special publicity arrangements.

There are 1,044 books on music (244 titles are duplicated), and 1,722 bound volumes of music in the *Library Association of Portland*; 45 miniature orchestral scores are listed among later additions. Eight-hand piano music is a rather unique specialty. The music section is promoted by talks to musical societies and before groups of teachers. The annual expense for books on music is \$18.50, for music \$270. The total outlay so far has been about \$1,500. Music is represented by 60 per cent and books on music by 40 per cent of the music department circulation. Interest is reported as keen and increasing, and when more space is available for the music section great developments are expected. Special lists of music and books on music are mimeographed.

The *Oregon State Library*, at Salem, does not report on the regular form, but the librarian writes:

We do not have a regular musical department, but I thought you might be interested to know that we have very great demand for these books by music-study clubs throughout the State. They have been encouraged to follow the programs issued by the National Federation of Musical Clubs and other programs found in books like Elson's "Music Study Programs through All Nations."

They rent victrola records; so that they have the music and can go through the program, even if they have not the local talent. We are not able to keep up with the demand for books on music; it has been quite extraordinary during the last few years.

### PENNSYLVANIA.

Items reported.	Number of libraries reporting—									
	1-25	26-49	50-75	100-150	175-200	225-300	400	500-700	1,000-2,000	Over 2,000.
Books on music.....	20	9	7	5	6	1	2	2	3	1
Bound volumes of music.....	5	3	4	.....	2	.....	.....	2	3	2
Separate pieces.....	1	.....	2	.....	.....	.....	1	.....	.....	.....
Player-piano rolls.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Phonograph records.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....
Orchestral scores.....	.....	1	.....	.....	2	.....	1	.....	.....	.....
Chamber music works.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....

<sup>1</sup>Chiefly miniature scores.

<sup>2</sup>1,200.

The music sections of the 61 libraries in Pennsylvania reporting such departments may hardly be classed as remarkable in any one respect. Several large collections distinguish the list, and some items therein are worthy of special comment, but the summary of the State has comparatively no outstanding feature. Music-section expenses and appropriations are apparently seldom classified separately, and those mentioned seldom call for comment.

The *Public Library at Bloomsburg*, with 60 books on music and 65 bound volumes of music, uses newspaper notices for publicity, personal work with people at the shelves, and has special cooperation with one of the local music clubs and the school supervisors. The interest is increasing slowly, and would probably grow faster with a more adequate collection of music.

The *Bucknell Library of Crozer Theological Seminary*, at Chester, has 225 books on music and 200 bound volumes of music, all in the line of church music.

The American Sunday School Union, at 1816 Chestnut Street, Philadelphia, has a special collection of historical works on sacred and Sunday-school music and hymn books, some of them reputed to be quite rare. These are collated in special cases. They are not in a circulating library, but are for consultation only, free to teachers and students as far as is consistent with the proper preservation of the works.

The *Drexel Institute Library*, of Philadelphia, includes the Jarvis memorial collection, presented to it by the widow of the late Charles H. Jarvis. The library has about 200 books on music and 2,000 bound volumes of music. There are 400 orchestral and 1,200 chamber-music scores. A condition of the Jarvis gift was that the music be used for reference only, and since this restriction has been in effect the use of the music section has somewhat decreased.

The *Free Library of Philadelphia* has 1,240 books on music, 142 bound volumes of magazines, and about 2,500 bound volumes of music. There are 160 orchestral scores, but usually piano arrangements of orchestral works are bought in preference to the scores. The strong points of the collection are the books on music, vocal scores of operas and oratorios, and piano arrangements. Thus far \$5,500 has been spent on the collection, and there is an annual expense from an endowment fund of \$300 for music and books on music. The interest is increasing. No count is kept of actual users. The circulation during 1916 was 8,469 volumes, 75 per cent of which was music and 25 per cent books on music. The library does not consider the collection adequate to the situation, and would add both books and music. Lectures and lecture recitals are given under library auspices.

Early Pennsylvania music, both manuscript and printed, is found in the library of the *Historical Society of Pennsylvania* at Philadelphia. It has all accrued by gift.

The Library Co. of Philadelphia makes this report:

This library has really a very fine collection of music and books relating to music, particularly church music, having inherited the collection of the late Dr. Albert G. Emerick. Poverty has so far prevented a proper arrangement and cataloguing of this collection. It is hoped that at some time in the future the library will be able to revise their musical collection and put it in such shape as to show what it consists of and how it can be best used.

The *Carnegie Library of Pittsburgh* has 7,000 books on music and 1,400 bound volumes of music, with 175 orchestral scores and 400 chamber music scores, both of the latter class chiefly in miniature form. The library is a general collection, strong in no especial field. All the usual means of publicity are used and, in addition, personal letters are sent to musicians upon occasion. No separate record is

kept of book expenses, but the scores represent an outlay of \$1,200. Patrons show an increasing interest in the music section, and \$500 annually could well be spent on music and books. No lectures or recitals are given directly under library auspices, but in the same building Mr. Charles Heinroth, the municipally supported city organist, gives biweekly organ recitals.

The *Carnegie Free Library of Allegheny, North Side, Pittsburgh*, has 2,000 books on music and 1,750 bound volumes of music. Vocal and piano music are the predominating features of the music collection, which has been largely acquired by gift. About 3,000 people use the collection annually, but the interest is stationary. An ideal sum for yearly purchases would be \$250, and music would be bought in preference to books. In the music hall of this library building free organ recitals are given weekly by the north-side city organist, Mr. Caspar P. Koch.

The library of the *Western Theological Seminary, Pittsburgh*, has acquired the collection made by the late James Warrington, of Philadelphia. It includes 1,300 books on music, about 3,500 bound volumes, and 400 unbound pieces. Church and folk music are almost the sole features of this library. Owing to the recent acquisition of this collection, it has not yet come into general use.

The *Public Library at Pottsville* has but a small collection of books on music and of music, but reports a demand for more material and a prospect of greater activity in a musical way. A recent request for more books on harmony and counterpoint came from a member of the mounted State police force.

### RHODE ISLAND.

Items reported.	Number of libraries reporting—								
	1-25	26-40	50-75	100-125	150	300	550	1,044	5,967
Books on music.....	6	2	3	1	2	1	1	1	.....
Bound volumes of music.....	2	1	.....	.....	.....	.....	.....	.....	.....
Separate pieces.....	.....	.....	.....	.....	.....	.....	.....	.....	11
Phonograph records.....	.....	.....	1	.....	.....	.....	.....	.....	.....

<sup>1</sup> Includes bound volumes and separately bound pieces

The striking feature of the reports from 16 Rhode Island libraries with music sections is the almost total lack, except in one case, of any resources except books on music. No player-piano rolls are mentioned, and 50 phonograph records is the total library collection for the State. Three libraries together have less than 100 bound volumes of music, and only one has any considerable amount of music. So far as books on music are concerned, the average is quite creditable. Scores and chamber music works are scarce, and so are figures regarding music department finances.

The *Public Library at Providence* has been fortunate in the reception of gifts to the music section. Several musicians and teachers have left their entire collections to the library, and the outlay of the music department has been correspondingly small. In the collection are 1,044 books on music, and 5,967 bound volumes and pieces of music, the latter being invariably provided with a cover. The field of piano music has preponderant representation. Figures for music department outlays are not kept separately. Interest in music is decidedly increasing; in 1916, 3,770 pieces of music and 900 books on music were circulated. The demands of the community are not met by the collection, and additions of music are preferred to those of books on music.



## SOUTH CAROLINA.

Six libraries in this State report music sections, but not one gives any detailed information. One reports "a very few books on music," another "a few books on music," another "about 11," the fourth "about 35."

The *Carnegie Library of Winthrop Normal and Industrial College*, at Rock Hill, says: "We have a general library of 20,000 volumes. Of these several hundred are on music. They are used a good deal by the students of the college who are in the music department."

## SOUTH DAKOTA.

Items reported.	Number of libraries reporting—								
	1-25	26-49	50-60	75	100	200	350-400	500	600
Books on music .....	2	2	1	2	1	1	1		
Bound volumes of music .....									1
Player-piano rolls .....								1	
Phonograph records .....			1				1		
Orchestral scores .....						1			
Chamber-music works .....					1				

Ten libraries from South Dakota report music sections. Not one has separate pieces of sheet music and only three have rolls or records. Three report increasing interest, none stationary or decreasing. Books on music are preferred, in the way of new additions, by three libraries, while only one favors more music.

The *Carnegie Free Public Library at Sioux Falls* has 200 books on music. Interest is increasing, and about 550 persons annually make use of the collection. Compared to the other divisions of the library, the music collection is sufficient, but the library would add both music, books on music, and phonograph records if circumstances permitted.

The library of the *University of South Dakota*, at Vermillion, has 400 books on music, 600 bound volumes of music, 500 player rolls, and 350 phonograph records. The policy is to purchase material that will be of the greatest help to students of the university and the community. To date about \$3,000 has been spent, and the annual outlay is \$100 for music, \$100 for books on music, and \$50 for rolls and records—all this from library funds. About 800 users are numbered annually, and the interest is increasing. Readers have the use of piano, player piano, and phonograph in the library. There are 200 orchestral scores and 100 chamber-music works. The collections of operas (vocal scores) and piano and chamber music are the leading features. Complete works of some composers have been acquired and the standard song composers are well represented.

## TENNESSEE.

Reports have been received from five libraries with music sections. The number of books on music is given as 25, 75, 150, 250, and 400. One library reports 3,000 bound volumes of music, but as it is a school library, probably a large part of that number are vocal scores for chorus use. Two libraries have each not over 50 bound volumes of music and one 138. No rolls are reported and only one small collection of 25 phonograph records. Increasing interest is mentioned twice and stationary once.

The *Carnegie Library at Nashville* has 400 books on music and 35 bound volumes of music. Nearly all of this material has been purchased, part of it

on suggestions from music clubs. The expense has been so far about \$1,000, of late years about \$25 annually. Interest is increasing, and the average number of actual users of the music section is about 500. The sums which the library has been able to spend on music "emphatically do not" meet the demands of the community, especially in the way of music which the library would gladly have for the development of taste. It is the hope of this library to greatly extend its musical activities when funds will permit.

### TEXAS.

The summary of reports from 14 music sections in Texas libraries is quite encouraging. Four libraries have 25 books on music, one 50, five 100, one 200, one 300, one 335, and one 450. Two have 25 bound volumes of music, one 75, one 100, one 125, and one 165. Only one reports unbound sheet music, about 100 pieces, and one has 50 phonograph records. Six report increasing interest in music and eight are noncommittal. Four believe the present resources of the music sections inadequate.

The *Dallas Public Library* has about 300 books on music and hopes soon to add both rolls and sheet music. In addition to newspaper notices of accessions, special attention is given to music-study clubs. The interest is increasing, and in 1916-17 music was responsible for a large share of the 32,000 books circulated from the class of fine arts.

The *Rosenberg Library at Galveston* has occasional lectures on music by paid speakers. Its collection of 335 books on music and 165 bound volumes of music is intended for general use, and no detailed figures of expense or circulation are available. Music was the special subject of the bulletin for January, 1912, which contains some helpful notes for the inauguration of such collections for general readers.

The *Carnegie Library at San Antonio* has 450 books on music and about 100 bound volumes of music, with 70 orchestral scores. The interest is increasing, but the library's music collection does not meet the demands of the community. The music section circulation makes up about 4 per cent of nonfiction.

### UTAH.

The situation in this State does not indicate particular interest or enthusiasm, judging from the reports of four libraries with music sections. They have 25, 125, 350, and 426 books on music. One has 500 unbound pieces of music, 10 orchestral scores, and 70 numbers of chamber music. No comment is made as to whether interest is stationary or changing, and no financial statistics of any kind are given.

### VERMONT.

Reports have been received from 11 libraries with music sections. Five of these have not over 25 books on music, one 30, one 50, one 106, and one 135. Four have not over 50 bound volumes of music, one 70, one 107, and one 257. One library (a State normal school) has 2,100 unbound pieces of music and 72 phonograph records—the only report of rolls or records in the State. Six libraries report increasing interest in music; one stationary. Four think their music collections and the funds appropriated inadequate to the needs of the community. Four would add to the present supply of music, three to books on music, and one would buy more phonograph records if funds would permit.

## VIRGINIA.

In some States few libraries seem able to give any particulars of the music section or its activities, and this condition seems to be characteristic of Virginia libraries. Six have reported, but altogether very few questions are answered. Three libraries have 25 or fewer books on music, one 150, one 300, and one 500. One library has 125 bound volumes of music and 776 unbound pieces. One reports increasing interest and one stationary. No figures are returned in answer to the questions on finance, except that one library would like a music section allowance of \$50 annually.

## WASHINGTON.

Pacific Coast States usually report a fair share of attention to music departments, and Washington is no exception. Twelve libraries specify music sections, with the following numbers of books on music: 25, 40, 55 (two), 80, 215, 229, 350, 600, and 971. Three libraries have bound volumes of music—120, 189, and 1,909, while one has 860 unbound pieces of music. One has 58 orchestral scores, another 81, while one library reports 500 chamber-music works. One spends \$150 to \$300 annually on the music-section purchases. Four believe their collections inadequate for the community. Three believe interest in music increasing; the others make no comment.

The general work of the *Washington State Traveling Library, at Olympia*, has until recently been hampered by lack of funds. Last year a rather liberal appropriation was made by the legislature, and it is expected that the music section will be considerably augmented at an early date. Now there are only 215 volumes classified in the music list. These are loaned to clubs, schools, teachers, and individuals. The superintendent, herself a musician of considerable experience, selects the material and gives personal assistance to its choice in answer to requests.

The *Public Library at Seattle* has 971 books on music, 1,909 bound volumes of music, and 860 separate pieces, with 81 miniature orchestral scores and 500 chamber music works. The books are strong in history and biography, while piano and vocal music are well represented in the music class. In addition to the usual means for publicity, this library has a bulletin board for notices of musical affairs, posters calling attention to special collections, and a shelf for new music. The collection has cost about \$4,000, exclusive of binding. There is an annual appropriation of \$150 from the library funds, but from \$150 to \$300 is spent on music and an undetermined sum for books on music. The library would like to spend \$1,000 a year once and \$600 subsequently buying music and books on music, but not adding rolls or records till needs in these lines were met. The interest is increasing, though the number of users of the music section is not kept. The circulation figure alone for 1917 was 10,823. Of this, 40 per cent was books on music and 60 per cent music. Mention is made of the use of this collection by the professional musicians of the city.

## WEST VIRGINIA.

This is another State where librarians are disposed to be noncommittal regarding the music sections. Four libraries report some collection—one each of 25, 60, 75, and 300 books on music. One has 25 bound volumes of music and another 145, while one has between 600 and 700 separate pieces of music. One has 50, another 200 phonograph records. With this information the reports are practically at an end.

## WISCONSIN.

Examination of the summary of 39 libraries reporting music sections indicates that Wisconsin is fairly well provided with small collections, but lacks any of notable size. Six libraries report increasing interest in music, four stationary, and one decreasing on account of war effects. Four librarians consider their collection sufficient for the musical interest of the community, and four do not; seven believe the present outlay (which, as reported, is always small) sufficient, while six would welcome larger music funds. Thirteen libraries use special means of publicity for the music section.

The *Kellogg Public Library, at Green Bay*, has over 200 books on music and 50 bound volumes of music. Lack of funds has prevented further purchases in this line, but the present material is much used by teachers, students, and others. Both newspaper and bulletin publicity is used for the music section.

The book selection and study club department of the *Wisconsin Library Commission, at Madison*, has about 200 books on music and 10 bound volumes of music. This material is sent out to clubs studying music according to a definite outline, often furnished by the library; or in answer to definite requests for information.

## WYOMING.

The single report from this State is that the State Library at Cheyenne has 30 books on music, all acquired by purchase, and included with the general collection.



## APPENDIX.

### MUSIC IN OUR LIBRARIES.

(Excerpts from an article by O. G. Sonneck. Reprinted, by permission, from *The Art World*.)

Poets and other generous souls have extolled the charms of music until the emotional superiority of music over other arts has become a dogma too venerable for doubt. Possibly the emotional appeal of music is more intense than that of other arts, but the account is squared by several obstructions in the path of that appeal. Chief among these (with all the inherent consequences) is the inordinately complex and costly apparatus required for the performance of musical works in the larger forms, such as symphonies, oratorios, operas. The composer faces a second disadvantage in the necessity of recording his thoughts with the help of symbols which can reach the sense appealed to, the ear, only by way of another sense, the eye. Furthermore, comparatively few music lovers possess the imagination or the training to transform such visual impressions into the corresponding aural impressions. The accomplishment of "reading the score" of a modern opera, for instance, is an accomplishment indeed, and of truly deterring difficulty. Yet on this very accomplishment of those interested in him every composer sooner or later depends for his intercourse with contemporaries or posterity whenever the performer, the intermediary between composer and public, chooses not to perform a composer's works.

A minimum of reflection will show how, under the circumstances, without the hospitality of libraries composers are in danger of being shut off from posterity. But there his musical thoughts lie practically buried alive, encapsuled in books of mute hieroglyphics. It is the best the world can offer him until that time when we shall have not merely musical libraries but "museums" of music, where in sundry feasible ways the public appeal of works of musical art will be made to endure, in effect similar to the permanent and ever-direct appeal of paintings, sculptures, etc., in museums of the fine arts. A fantastic dream? Not at all.

If works of musical art, then, must fall back gradually on the hospitality of libraries—from the very nature of music virtually the hospitality of a mausoleum—has the best been made of the situation? Hardly. Musical libraries that are reasonably representative of the mighty growth of musical culture in our country, culture that springs from tender but healthy roots 200 years old, are too few and far between to suggest a different answer. Perhaps the librarian profession still hesitates to recognize in music intellectual elements not less worthy of attention than genealogy or fiction. Perhaps we suffer from a dearth of expert musical librarians whose authority might compel a more hospitable attitude of mind. Perhaps musicians and music lovers in musical communities are still too indifferent or too unaware of their power of concerted action to have the rights of music as a cultural and therewith civic factor more adequately respected in libraries. Perhaps American libraries are richer in good will than in funds; perhaps the cost of music, comparatively much greater than that of literature, works as a handicap. Whatever the reason or reasons, the fact remains that music is deplorably underfed in the great majority of our libraries. Otherwise cities like New York, Philadelphia, Chicago, St. Louis, Cincinnati, San Francisco, Minneapolis and half a dozen others of our musical centers would not lag so far behind Boston in the possession of a municipal musical library of which all citizens may feel proud. They would not be able to emulate certain unique features of the late Mr. Allen A. Brown's munificent gift to the city of Boston; but if they had started in time and had persevered, they would now, as they ought, possess musical collections fairly equal to his in extent and merit.

In any ambitious community a library without the complete works of Shakespeare, Goethe, Dickens, Ibsen, Molière, Balzac, Dante, Longfellow, Poe, or with-

out various serial works published to embrace a comprehensive selection of representatives and historically important literary masterpieces, such as Johnson's 75-volume edition of English writers, would very properly invite scornful criticism. Apply a similar test with reference to the great masters of music. Does your local library contain the more or less complete editions of the works of Palestrina, Orlando di Lasso, Bach, Händel, Purcell, Rameau, Grétry, Haydn, Mozart, Beethoven, Schubert, Schumann, Mendelssohn, Berlioz, Liszt, Wagner, Verdi? Does it contain such historical publications as the *Denkmäler der Tonkunst* in Austria and Germany, the *Paléographie musicale*, *Les Archives de Maîtres de l'Orgue*, *L'arte musicale in Italia*, *Les maîtres musiciens de la Renaissance française*, the series of volumes of the Musical Antiquarian Society, or the other similar undertakings designed to rescue from oblivion and to revive, at least for the student, masters of the past? \* \* \*

It is not the frequency of use of a book that counts, but the use to which a book is put. A costly and rare book consulted only once in 10 years, but then by a man of far-reaching research or codification of research, has justified its acquisition just as much as an inexpensive, commonplace book consulted every day for mere receptive information.

If the absence of works of "antiquarian" or "modern" interest be explained on the grounds of expensiveness, the explanation will carry weight. For it is a regrettable fact that chamber music, orchestra music, opera scores, etc., entail an expenditure which acts as a barrier to the comprehensive acquisition of meritorious music. And when the prices of foreign works of musical art are Americanized a librarian may well despair of his ability to satisfy the needs of a musical community. When scores of the type mentioned above run in cost anywhere from \$4 to \$250, the difficulty of assembling a representative collection of music becomes obvious, not to mention a moderate indulgence in bibliographical rarities or in autograph scores.

On the other hand, however, by no means all desirable and necessary music is beyond reach of even poor institutions. In every country music publishers have sought to meet the situation by issuing the standard works by standard composers for a moderate price. By surveying such editions any librarian with a modicum of expert knowledge may assemble a collection of indispensable works of musical art and of books on music. Indeed, respectable publishers have tried to facilitate his task by forming for him just such collections at a price which, of course, keeps pace with the character, extent, and scope of the purchases *en bloc* suggested. Strange to say, either for lack of confidence in the interested disinterestedness of publishers or for lack of interest or knowledge or ability to resist the temptation of wasting one's meager funds on favored composers and alluringly advertised expensive publications, or for other reasons, it would appear that the movement has not been an unqualified success. True, many small libraries have embraced the opportunities offered, but just as many have neglected them, with the result that the number of reasonably well-equipped public musical libraries seems to be abnormally small in our country.

There is something fundamentally wrong somewhere in the situation if for instance a prominent publisher could sell to private music lovers many thousand single volumes, but to public libraries only about 50 complete sets of a remarkable publication (now nearing the hundredth volume) which will form a comprehensive musician's library in itself, costs less than \$2 a volume, and for merit belongs to that type and class of publication which ought to be not in 50 but in 1,000 public libraries.

Precisely such serial publications, in a way encyclopedic publications, ought to form the basis of every public collection. It is the center from which the concentric method of library development can best find its outward impetus; and no other method, provided it be not employed too rigidly or pedantically, will produce equally satisfactory results. Without it the collections will soon become unbalanced; they will suffer from obesity here and from anemia there. Nor is this all. Such publications, planned as libraries within libraries, lend themselves to bibliography treatment for reference purposes more readily and more fruitfully than collections formed by picking out this or that work from catalogues. And paradoxical as it may sound, small libraries, with contents of such publications analytically catalogued, will often be in a better position to supply a sudden demand for specimens of work by an out-of-the-way composer than large libraries with an operating force too small or administrative machinery unsuited for proper analysis of collective publications.

An annual appropriation of \$300 for the purchase of good music and good books on music is the *minimum* expenditure from which to expect results of

substantial benefit to even small musical communities. This estimate applies merely to reference libraries, not to circulating libraries with branch offices. Moreover, it takes into account only the acquisition of printed music and does not concern itself with a collection of talking-machine records or player-piano rolls, so useful and desirable for purposes of *vulgarisation*, as the French would say. The larger a community is, or the more it bubbles over with musical activities, the more inadequate such a small annual appropriation as the above naturally becomes. If we pass on to our musical centers, or would-be musical centers, even \$1,000 will prove insufficient, if music really is meant to find a place in the public library in keeping with the community's interest in music.

The public libraries in cities like those mentioned above would deserve no *ordre pour le mérite* for exceptional services rendered, if their annual appropriation for music and books on music reached or exceeded \$2,000. They would really be doing their duty only (and not more) toward music and its devotees by spending that sum every year. Even so, they would soon discover that the intelligent annual expenditure of \$2,000 will not nowadays cover the field of legitimate ambition, and that their musical collection will retain at that rate the characteristics of a good "working library" on a fairly large scale, but will never develop into a really first-class library of international importance for antiquarian research or study of modern music.

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**NOTE:** The attention of librarians is called to a Classification of Music and Books on Music, from the Library of Congress. It is for sale by the Superintendent of Documents, Government Printing Office, at 15 cents. This scheme of classification, prepared in 1904, under the direction of Mr. O. G. Sonneck, chief of division of music, Library of Congress, was thoroughly tested, and the revision is dated March, 1917. It has been applied to more than half a million items, but the plan is such that it may be reduced for collections of any size. The book of 157 pages will be found of the greatest value to music librarians, and will help to solve many problems in the proper classification of musical material.





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STATUS OF THE RURAL TEACHER  
IN PENNSYLVANIA

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# STATUS OF THE RURAL TEACHER IN PENNSYLVANIA.

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## Chapter I.

### INTRODUCTION.

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#### PURPOSE AND PLAN OF THE STUDY.

The purpose of this study is to learn the true status of the rural teacher in Pennsylvania. By the rural teacher is meant the teacher in the one-teacher schools in the open country. The study is restricted for the most part to the facts and conditions pertaining to the teachers in the one-teacher schools. In some instances data will also be given regarding the teachers in two-teacher schools, villages, and boroughs, either for the purpose of helping to verify the conclusions concerning the teachers in the one-teacher schools, or merely to show contrasts and significant similarities.

As to scope, this study endeavors to collect all the data possible relating to (1) the personal, social, and economic status of the teacher; (2) conditions under which the work is conducted; (3) academic and professional preparation and training; (4) certification; (5) experience in teaching and tenure; and (6) salary. Each of these aspects will receive detailed consideration in single chapters as designated.

The material in general will be treated on the basis of the counties reporting as a composite whole, for the purpose of revealing the situation for the entire State, but in some cases individual counties will be used for more specific interpretations. It is not primarily the purpose to compare the data herein set forth with those of other States; in the first place, because of the very limited amount available in this field, and in the second place, because of the time and expense that would be incurred in trying to obtain such material from other States. Again, it is not the aim in dealing with the problems concerning the rural school teacher to set up a definite program for the State, but rather to present some conclusions and make such suggestions as the facts in this study may safely warrant.

#### ORIGINAL SOURCES AND PROCEDURE FOLLOWED.

(1) Upon investigating what material was accessible bearing upon the topic, it was found that, on account of the meager supply, a questionnaire would have to be formulated in order to get the information necessary for the study of many of its essential phases. Under the direction of Prof. Harlan Updegraff, with the assistance of the fellow members of the seminar in educational administration at the University of Pennsylvania, a tentative questionnaire was framed and distributed among the teachers in several townships in the vicinity of Philadelphia. After a number of trials and modifications of the original questionnaire, caused both by the type of answers given by the teachers, and by the tabulation of these replies in a preliminary study, the questionnaire was finally formulated as here given.

## TEACHER'S QUESTIONNAIRE.

## 1. Educational and professional training:

- (a) Did you attend a one-room rural school? ..... How many years?  
 ..... A rural school of more than one room? ..... How many years?  
 (b) Did you attend a village, borough, or city elementary school of eight grades?  
 ..... How many years?  
 (c) In the blank spaces below state further educational preparation, if any.

	Exact length of attendance.	Did you graduate?	Diploma or certificate.
High school.....	Years ..... and months.....		
Academy.....	Years ..... and months.....		
Normal school.....	Years ..... and months.....		
Spring or summer normal course.....	Weeks.....		
Summer college course.....	Weeks.....		

## 2. Have you had any of the above academic or professional training since you began teaching? ..... Where? ..... How long? ..... Kind? ..... What would induce you to get a better academic or professional training for teaching? .....

## 3. What kind of certificate do you hold? .....

## 4. Experience in teaching. (Fill out blank spaces below.)

Rural, 1-room school.....	Number of school years.....	Number of places.....
Rural, more than 1-room school.....	Number of school years.....	Number of places.....
Village.....	Number of school years.....	Number of places.....
Borough.....	Number of school years.....	Number of places.....
City.....	Number of school years.....	Number of places.....

5. Are you now teaching in a township? ..... In a village? ..... In a one-room rural school? ..... If more than one room, how many rooms? .....
6. How many pupils in your schoolroom? ..... How many recitations or classes do you teach in a day? ..... How many grades? ..... What grades? .....
7. What year did you begin teaching? ..... What was your age when you began teaching? ..... Is this your first year? ..... Age? ..... Sex? ..... Were you born and reared in the country? ..... In a village? ..... Borough? ..... City? .....
8. Are you married? ..... How many children? ..... If unmarried, is any one dependent on you for financial aid? ..... How many? ..... What amount per year? ..... Do you live with your parents or relatives while teaching? ..... Do you stay over Sunday in the community in which you teach? .....
9. What is your salary per month this year? ..... How many months? ..... What was your salary per month last year? ..... How many months? ..... Did you have any other income last year besides your teaching salary? ..... If so, how much per year? .....
10. What was your salary per month the first year you taught? ..... How often have you had your salary increased? ..... On what basis does your district raise salaries? .....
11. Do you pay board? ..... How much per month? ..... How many months? ..... How much per week? ..... How many weeks? .....
12. Did you save money on your salary last year? ..... Approximately how much? ..... Do you think you can save money on your salary this year? ..... How much? ..... Do you carry life insurance? ..... Cost per year? ..... Do you belong to a teacher's protective or beneficial organization? ..... Cost per year? .....

13. Are you a subscriber for a pedagogical or professional magazine?.....  
 Name?..... Cost?..... Do you invest any other  
 money for professional literature?..... Kind?..... Cost?.....  
 Do you have any reference books besides your regular class textbooks?.....  
 What kind?..... Do you have a school library?..... Approximate  
 number of books?..... Have you access to any other library for  
 books or materials for teaching?..... Does your district hold local insti-  
 tutes?..... Are you a member of a reading circle?.....
14. Do you take part in a parent-teacher's association or any other kind of com-  
 munity activity held in your school building?..... Kind?..... Is  
 the schoolhouse used for any kind of community meeting at night?.....  
 Kind?..... How many homes of patrons do you think you visited last  
 year?..... How many visits, approximately, were made by parents to  
 your school last year?.....
15. How many hours last year did the county superintendent supervise your teach-  
 ing?..... How many hours, the assistant county superintendents?  
 ..... Did your school board visit your school?..... How many?  
 ..... How often?.....
16. How much consideration does the school board in your district give to the county  
 superintendent's or other supervisor's judgment at the time of a teacher's  
 election or re-election? (Answer—None, little, or much)..... Do you  
 believe you will be retained as a teacher next year in your district; or in other  
 words do you have a feeling of security in your position?..... Why?  
 .....

During the school year ending June, 1918, the questionnaires were distributed among the teachers in the one-teacher rural schools of 18 counties of the State. These counties were selected at random, with the exception that special precaution was taken that the eastern, central, and western parts of the State should be represented. It was also planned to include 3 counties in which State normal schools are located. As there are 66 counties in Pennsylvania under county supervision, excluding Philadelphia County, and since 13 of these have State normal schools, it will be seen that this is a fairly proportionate representation. The size of the counties was also taken into account, so that an equitable distribution of large and small counties should be represented in the study.

These questionnaires were distributed at the teachers' institutes of the different counties, and the teachers are represented who voluntarily remained either during the session of the institute or the intermission. In the majority of the counties the writer supervised the distribution of the questionnaires; in cases where it was impossible for him to do this, carefully prepared instructions were sent to the county superintendents to be read to the teachers, so that the questionnaires would be handled in each county in as uniform a manner as possible in order to avoid the least variation in procedure.

The teachers were asked to fill out the questionnaires but were instructed not to insert their names, in order to prevent any hesitancy on their part in giving the facts requested; likewise the county superintendents were assured that their counties would not be referred to by name. These precautions were taken to make the study as accurate and scientific as possible. From the 18 counties there were 1,450 replies received, of which 1,110, or 76.5 per cent, were given by women teachers, and 340, or 23.5 per cent, by men—an average of 80 replies for each county represented. The number of teachers from the different counties who replied averaged 62 per cent of the teachers enrolled in one-teacher schools in each county respectively.

Although all the teachers in each of the 18 counties did not reply to the questionnaire, there is sufficient evidence to establish the belief that those who responded constitute a very fair sampling of the teachers of each county represented. Of the teachers constituting this study, 45 per cent hold provisional certificates, 24.7 per cent professional, 12 per cent permanent, 18 per cent normal school certificates or diplomas, and approximately 0.3 per cent college provisional or permanent certificates. The smaller percentage of teachers holding provisional certificates and the

larger percentage of teachers holding permanent certificates and normal school certificates and diplomas, as compared with the per cent for the State as a whole (Chapter VII), would alone seem to justify this assumption. Consequently, any unfavorable criticism of rural schools of Pennsylvania can not be gainsaid on the ground that an inferior sampling of the teaching group had been made.

The superintendents in some of the counties examined the answered questionnaires and stated that in view of their knowledge of the teachers they believed the replies to be accurate and representative of the teaching force of their respective counties. The complete and illuminating way in which the questions were answered, especially those pertaining to the social and economic status of the teacher, also bears out the judgment of the county superintendents. It is the belief of the writer that the interest manifested by the teachers, after being assured that the main purpose of the questionnaire was to get the facts which might eventually be used for improving the status of the rural school teacher, is evidence that their replies are accurate and reliable.

The replies of the teachers were completely tabulated on 18 record sheets—one for each county represented—outlined so as to set forth clearly the information under such headings as academic and professional preparation, teaching experience, salaries, economic conditions, etc. Each teacher's questionnaire was given a number to coincide with the number on the county record sheet in order to check up or trace an individual teacher's record. These county record sheets made possible the tabulation not only of the total record for each county, but also of the combined record sheet for all the cases, making readily accessible each item covered by the data for the composite group.

It will be observed throughout the study that there is considerable variation between the total number of teachers replying to the questionnaire and those answering individual items. Percentages are usually made on the basis of the number of teachers answering the particular question, rather than upon the whole number of teachers reporting.

(2) Besides the use of the questionnaire above referred to, it was necessary to obtain further original data directly from the county superintendents. They were asked to send a complete directory of the teachers under their supervision for the school years 1918-19 and 1919-20, designating those who were teachers in one-teacher and two-teacher schools in the townships. They also indicated after each teacher's name (1) the kind of certificate held, (2) whether a new teacher without experience, or (3) an experienced teacher transferred to another school, and (4) the teacher's salary. Data regarding these phases of the status of approximately 5,100 teachers were submitted by the superintendents of 30 counties through their official directories. The number of counties and teachers covered by this material will be referred to specifically throughout the discussion.

(3) A questionnaire was sent to each principal of the 13 State normal schools to give and corroborate certain statistics pertaining directly to the training and certifying of rural teachers. Specific reference will be made to this material in certain parts of the context.

#### SECONDARY SOURCES.

Among the secondary sources furnishing data, the State reports issued by the superintendent of public instruction should be mentioned, particularly the one for 1918. Since the data in the State reports, for the different counties and for the entire State, deal with all the teachers under county supervision as a composite whole, the information was found quite limited, in so far as it was directly applicable to the problem at hand—the teacher in the one-teacher rural school.<sup>1</sup>

<sup>1</sup> Rep. Sup. of Pub. Instruction, Pennsylvania, 1918.

The report on rural schools by a committee of the Pennsylvania State Educational Association, issued in 1914, contributed to the formulation of parts of this study.<sup>2</sup>

Suggestions were obtained from Coffman's "The Social Composition of the Teaching Force," particularly in reference to the social and economic status of the teacher.<sup>3</sup>

The legal basis for this study is found largely in the Pennsylvania School Code.<sup>4</sup> In the case of all other sources and references used, due and proper recognition will be given as each one occurs in the various chapters.

The statistical procedure used in this study is based largely on Thorndike's "Mental and Social Measurements" and Rugg's "Statistical Methods Applied to Education," in which the terms and processes used are clearly defined.

## THE BACKGROUND.

The 10,038 teachers in the one-teacher schools of Pennsylvania constitute approximately one-fourth of the entire number of teachers in the State and one-half of the teachers under county supervision. The number of teachers in one-teacher rural schools is larger than the total number of teachers of all classes in each of 23 different States of the United States and is approximately equivalent to the total number of teachers in the States of Arkansas, Mississippi, and West Virginia.<sup>7</sup> With the exception of Iowa, with approximately 11,000,<sup>8</sup> and Illinois, with 10,105,<sup>9</sup> one-teacher schools, Pennsylvania ranks highest among all the States in the number of teachers in one-teacher schools. The next States in rank are New York, with 8,500 one-teacher schools;<sup>10</sup> Minnesota, with 8,174;<sup>11</sup> and Wisconsin, with 7,000.<sup>12</sup>

These one-teacher schools are distributed for each of the 66 counties of the State (Philadelphia excluded) in the accompanying Table 1. It will be seen that 10,038, or 42.2 per cent, of the entire number of teachers under county supervision—namely, 23,807—are teaching in one-teacher schools, and that approximately 2,394, or 11.3 per cent, are teaching in two-teacher schools.<sup>13</sup> The range of the number of teachers in the one-teacher schools of the different counties extends from 22 to 361 and in per cent from 8 to 96 of the total number of teachers in each county. The median county has 51 per cent of the teachers in one-teacher schools, indicating that one-half, or 33 of the counties, have from 51 to 96 per cent of their teachers in one-teacher schools. It will be noted that counties 23 and 2, which contain large cities, have only 8 and 10 per cent of their teachers in one-teacher schools. On the other hand, counties 29 and 47 have over 90 per cent of their teachers in these schools. Both of these counties are very sparsely populated, having a teacher in a one-teacher school for every 126 and 159 inhabitants.

<sup>2</sup> Rep. of Rural Educ., committee of the Pa. Educ. Assoc., Harrisburg, Dec., 1914, Part IV, pp. 37-47.

<sup>3</sup> Coffman, L. D.—The Social Composition of the Teaching Population, Teachers College, Columbia University.

<sup>4</sup> School Laws and Appendix for Pennsylvania, 1919.

<sup>5</sup> Thorndike, E. L.—Mental and Social Measurements, Teachers College, Columbia University.

<sup>6</sup> Rugg, H. O.—Statistical Methods Applied to Education, Houghton Mifflin Co.

<sup>7</sup> Rep. U. S. Commis. of Educ., 1917, vol. 2, p. 76.

<sup>8</sup> Rep. Supt. Pub. Instruction, P. E. McClenahan.

<sup>9</sup> Rep. Supt. Pub. Instruction, F. G. Blair.

<sup>10</sup> Engelhardt, "The Teaching Profession in the State of New York" (unpublished). Will appear in the Annual Report for 1918-19 of the Assistant Commissioner of Education, New York State.

<sup>11</sup> Rep. Commissioner of Education, James M. McConnell.

<sup>12</sup> Rep. Supt. Pub. Instruction, C. P. Cary.

<sup>13</sup> Rep. Supt. Pub. Instruction for Pa., 1918, pp. 608-610. Becht, J. George, "A Study of School Consolidation and Transportation." Sixth An. Schoolmen's Week Proc., p. 197.

TABLE 1.—*Number of elementary teachers under county supervision—Number and per cent in one-teacher schools, two-teacher schools, more than two-teacher schools in villages and boroughs—Population and area in square miles.*

County.	Total number of teachers. <sup>1</sup>	Number in one-teacher schools. <sup>2</sup>	Number in two-teacher schools. <sup>3</sup>	Number in more than two-teacher schools.	Per cent in one-teacher schools.	Per cent in two-teacher schools.	Per cent in more than two-teacher schools.	Rural population of counties in 1910. <sup>4, 5</sup>	Population per teacher in one-teacher schools.	Area in square miles.	Square miles for one-teacher schools.
Adams.....	221	151	13	58	69	8	23	34,319	227	528	3.5
Allegheny.....	1,722	185	114	1,423	10	7	83	839,134	4,536	725	3.9
Armstrong.....	435	223	38	174	51	9	40	67,880	308	553	2.5
Beaver.....	405	128	54	221	32	13	55	56,162	431	430	3.3
Bedford.....	348	223	36	89	64	10	26	38,879	174	1,026	4.6
Berks.....	604	335	36	233	55	6	39	87,151	263	865	2.6
Blair.....	301	128	60	113	43	20	37	40,565	387	534	4.1
Bradford.....	463	219	40	204	47	9	44	54,526	248	1,145	5.2
Bucks.....	419	189	63	162	45	16	39	76,530	405	908	3.2
Butler.....	351	222	60	69	63	17	20	51,916	234	790	3.5
Cambria.....	687	170	110	407	25	16	59	110,640	651	717	4.2
Cameron.....	58	22	8	28	38	14	48	7,644	347	392	17.8
Carbon.....	276	55	12	209	20	4	76	52,846	961	406	7.4
Centre.....	313	159	28	126	51	9	40	43,426	273	1,146	7.2
Chester.....	468	225	68	175	48	15	37	75,619	336	777	3.4
Clarion.....	282	172	26	84	61	9	30	36,638	213	601	3.5
Clearfield.....	560	241	78	241	43	14	43	74,294	308	1,142	4.7
Clinton.....	177	84	12	81	47	7	68	23,773	283	878	10.4
Columbia.....	224	113	38	73	50	17	33	49,467	428	479	4.2
Crawford.....	373	311	44	18	83	12	5	48,785	157	1,038	3.5
Cumberland.....	280	155	24	111	53	8	39	44,176	285	528	3.4
Dauphin.....	331	128	28	175	39	8	53	57,720	451	521	4.1
Delaware.....	363	28	18	317	8	5	87	79,369	2,824	185	6.6
Elk.....	227	80	28	149	22	12	66	36,871	717	806	18.1
Erie.....	378	201	20	157	53	5	42	48,992	243	781	2.9
Payette.....	749	177	90	482	24	12	64	141,260	798	795	4.5
Forest.....	64	43	18	3	67	28	5	9,425	219	423	9.8
Franklin.....	307	197	72	38	64	23	13	47,975	243	751	3.8
Fulton.....	84	77	4	3	92	5	3	9,708	136	492	5.2
Greene.....	272	174	20	78	64	7	29	28,882	166	574	3.3
Huntingdon.....	251	170	18	63	68	7	25	31,443	185	918	3.4
Indiana.....	443	204	22	207	46	7	47	66,210	324	839	4.0
Jefferson.....	349	167	30	152	48	9	43	53,932	322	666	4.0
Juniata.....	90	60	6	15	77	7	16	250,750	3,784	392	7.7
Lackawanna.....	222	65	20	137	29	9	62	65,233	1,005	451	6.9
Lancaster.....	650	361	74	215	56	11	33	108,348	300	971	2.6
Lawrence.....	184	108	30	51	58	16	26	33,732	327	260	2.4
Lebanon.....	247	119	26	102	48	11	41	40,325	338	360	2.9
Lehigh.....	371	132	32	187	35	14	51	48,832	389	344	3.1
Luzerne.....	1,206	150	22	1,034	12	2	86	198,480	1,323	892	5.9
Lycoming.....	321	197	30	94	61	9	30	48,953	217	1,200	6.1
McKean.....	211	92	28	91	43	13	44	33,324	362	987	10.7
Mercer.....	356	207	20	129	58	6	36	62,429	301	700	3.3
Mifflin.....	127	62	6	59	49	6	45	19,619	316	398	6.4
Monroe.....	171	102	24	45	60	14	26	22,941	224	623	6.1
Montgomery.....	466	113	56	317	23	12	65	92,531	818	484	4.3
Montour.....	48	46	2	.....	96	4	.....	7,351	159	130	2.8
Northampton.....	368	151	46	171	41	13	66	65,437	433	372	2.4
Northumberland.....	291	126	22	143	43	8	49	36,065	293	454	3.6
Perry.....	201	132	8	61	66	4	30	24,136	182	364	4.2
Pike.....	70	50	4	16	71	6	23	8,038	180	544	10.9
Potter.....	126	108	12	6	86	10	4	20,720	275	1,071	9.9
Schuylkill.....	705	155	88	462	22	12	66	145,948	942	777	5.0
Snyder.....	128	82	12	34	64	9	27	16,800	204	311	3.8
Somerset.....	477	237	54	186	50	11	39	67,717	283	1,034	4.3
Sullivan.....	124	72	4	48	58	3	39	11,268	157	468	6.2
Susquehanna.....	283	148	8	127	52	3	45	37,746	255	824	5.6
Tioga.....	306	145	18	143	47	6	47	42,829	295	1,122	7.8
Union.....	109	66	16	27	61	15	24	16,249	246	365	4.6
Venango.....	229	161	26	42	70	11	19	30,825	192	661	4.1
Warren.....	233	118	16	99	51	7	42	28,493	241	902	7.6

<sup>1</sup> Rep. Supt. Pub. Instruction for Pa., 1918, p. 610.<sup>2</sup> Ibid, p. 608. Becht, J. George, A Study of School Consolidation and Transportation, Sixth An. School-men's Week Proc., p. 197.<sup>3</sup> Ibid.<sup>4</sup> Smull's Legislative Hand Book of Pennsylvania, p. 389. Population includes only school districts under county superintendents' supervision.<sup>5</sup> Geographical Gazetteer, Rand-McNally.

TABLE 1.—*Number of elementary teachers under county supervision—Number and per cent in one-teacher schools, two-teacher schools, more than two-teacher schools in villages and boroughs—Population and area in square miles—Continued.*

County.	Total number of teachers.	Number in one-teacher schools.	Number in two-teacher schools.	Number in more than two-teacher schools.	Per cent in one-teacher schools.	Per cent in two-teacher schools.	Per cent in more than two-teacher schools.	Rural population of counties in 1910.	Population per teacher in one-teacher schools.	Area in square miles.	Square miles for one-teacher schools.
Washington.....	761	280	100	381	37	13	50	115,287	411	802	3.1
Wayne.....	246	130	14	82	61	6	35	20,236	194	780	4.0
Westmoreland.....	966	296	144	526	21	15	54	208,517	697	1,039	3.5
Wyoming.....	130	67	12	51	52	9	39	15,569	231	397	5.9
York.....	571	269	50	171	61	9	30	91,656	262	908	2.5
<b>Total.....</b>	<b>23,307</b>	<b>10,038</b>	<b>3,394</b>	<b>11,375</b>	<b>4,223</b>	<b>11.3</b>	<b>46.5</b>	<b>4,506,643</b>		<b>44,622</b>	
Range.....	22-361	2-144	0-1,423	8-96	2-28	0-37		126-4,536		2.4-17.8	
Median county.....	150	26	111	51	9	39		295		4.2	
25 percentile.....	88	14	51	40	7	23		231		3.4	
75 percentile.....	197	50	186	61	13	66		411		6.1	
Quartile deviation.....	54.5	18	67.5	10.5	3	11		90		1.4	

The table shows that the number and per cent of teachers in one-teacher schools in the counties of the State vary greatly on basis of the 1910 census rural population, ranging in number of inhabitants per teacher from 126 in the most sparsely populated county to 4,536 in the county with the largest population. The population per teacher in the median county is 295.

Since the size of the counties in Pennsylvania ranges from 130 to 1,200 square miles, it is not surprising that the range in square miles for each teacher in a one-teacher school extends from 2.4 to 17.8, with the median county showing 4.2 square miles. In the case of the 10 counties with an area of 1,000 square miles or more the per cent of one-teacher schools ranges from 31 to 86. For example, in counties 20 and 52 the county superintendents have 311 out of 373, or 83 per cent, and 108 out of 126, or 86 per cent, of the teachers under their supervision in one-teacher schools. On the other hand, counties 17 and 64 of this group of large counties have 241 out of 560 and 296 out of 966 teachers in one-teacher schools, percentages of 43 and 31, respectively.

*Some facts concerning the teacher situation in Pennsylvania.*

	Number.	Per cent.
<b>A. NUMBER OF TEACHERS IN 1918-19.</b>		
In State (excluding Philadelphia and Pittsburgh).....	35,641	100
Under county superintendents' supervision.....	23,307	65
In villages and boroughs.....	11,375	47
In one-teacher schools.....	10,038	42
In two-teacher schools.....	2,394	11
<b>B. NUMBER OF NEW TEACHERS.</b>		
Under county superintendents' supervision, 1919-20 <sup>1</sup> .....	5,500	23
Under county superintendents' supervision, 1918-19 (without experience).....	4,044	17
In one-teacher schools, 1919-20 (without experience).....	3,200	32
In one-teacher schools (experienced in a new position).....	3,900	39
<b>C. NORMAL-SCHOOL GRADUATES.</b>		
In 1918.....	1,964	
In 1919.....	1,750	
In 1920.....	1,650	
Estimated number of normal graduates entering rural schools in 1919.....	248	15

<sup>1</sup> Study in Teacher Shortage, Department of Public Instruction, Pennsylvania, 1919-20 (unpublished).

<sup>2</sup> Number estimated, based on the replies to a questionnaire to the normal-school principals.



## Chapter II.

### SOCIAL AND ECONOMIC STATUS.

Before going into the study of the rural teachers from the point of view of their educational preparation, certification, experience, and salary, we shall consider the more personal factors relating to their social and economic life. It is hoped that by following this procedure we may have a better conception of rural teachers as such, and thus be better able to interpret the conditions and situations later revealed in the major part of this study.

#### MEN AND WOMEN TEACHERS.

In the accompanying Table 2 the data obtained from the directories issued by the county superintendents for the present year, 1919-20, show that 76 per cent of the 2,743 teachers in the one-teacher elementary schools are women and 24 per cent are men. Comparing these percentages with the State averages for 1918—for women 82.4 and for men 17.6—it will be seen that in these 20 counties represented the per cent of men teachers surpasses the State average for men in 1918 by 6.4.<sup>1</sup> It is interesting to note further that the percentage of men teachers in these counties is also approximately 4 per cent higher than that for the United States as a whole in 1917, which was 19.7 per cent.<sup>2</sup>

TABLE 2.—*Distribution by number and per cent of men and women teachers in one-teacher schools of 20 counties in 1919-20.*

No. of county.	Men.	Women.	Total.	Per cent men.	Per cent women.
1.....	41	178	219	19	81
2.....	30	95	125	24	76
3.....	20	160	180	11	89
4.....	17	152	169	10	90
5.....	30	174	204	15	85
6.....	3	21	24	13	87
7.....	13	27	40	33	67
8.....	18	196	214	8	92
9.....	53	94	147	36	64
10.....	47	102	149	32	68
11.....	40	46	86	47	53
12.....	19	50	69	28	72
13.....	18	49	67	27	73
14.....	43	80	123	35	65
15.....	6	94	100	6	94
16.....	41	75	116	35	65
17.....	71	172	243	29	71
18.....	8	35	43	19	81
19.....	2	102	104	2	98
20.....	137	184	321	43	57
Total.....	657	2,086	2,743	24	76
Range.....	2-137	21-196	.....	2-47	53-98
First quartile.....	13	49	.....	11	65
Median.....	20	94	.....	24	73
Third quartile.....	41	160	.....	33	87
Quartile deviation.....	14	56	.....	11	10.5

<sup>1</sup> Rep. Supt. Pub. Instruction for Pa., 1918, p. 633.

<sup>2</sup> Rep. U. S. Commis. of Educ., 1916-1918, Vol. III, p. 16.

While there is very little available material from other States concerning the per cent of men and women teachers in the rural schools grouped apart from all the teachers in the public schools, nevertheless what we do have shows that Pennsylvania has a higher percentage than certain other States. For example, a survey of Nebraska in 1915 showed the percentage of men teachers in the rural schools to be 10.3 and of women 89.7.<sup>3</sup> In 1918, among the white teachers in county schools in Virginia, 9 per cent were men and 91 per cent, women.<sup>4</sup>

A study of the per cent of men and women teachers in the separate counties as shown in the table reveals a wide variation. On the one hand, counties 11 and 20 show 47 and 43 per cent men teachers, respectively, comprising nearly one-half of the teachers in the one-teacher schools. On the other hand, in county 19 only 2 per cent of its 104 teachers are men, and in counties 8 and 15 the men teachers are 8 and 6 per cent, respectively. From these facts it will be seen that the range of the men teachers extends from 2 to 47 per cent, while for the women the range is high, extending from 53 to 98 per cent.

From the data at hand it is difficult to account for the large variation in the number and per cent of men and women teachers in the different counties. It happens, however, that the counties having the highest per cent of men teachers are usually classified as agricultural counties. Through the questionnaire it was learned that in the counties having a high proportion of men teachers the majority were married, lived on farms, and frequently reported substantial incomes in addition to their salaries received for teaching. Owing to such living conditions, teachers remain in the teaching service, thus bringing about greater stability in the teaching force.

#### AGE OF TEACHERS.

Of the 1,446 cases represented in Table 3, 1,109 are women and 337 men, with ages ranging from 18 to 65 years. The median age of the women teachers is 22, and of the men, 26.7, showing a difference on an average of over 4 years. Although the range in the age of men teachers is practically the same as that of the women, yet there is greater variation and a wider distribution about the midpoint in the case of the men teachers than in that of the women, as evidenced by the quartile deviation of 10 in the first case and 3.5 in the second. The upper 25 per cent of the men and women teachers are beyond 41 and 27 years of age, respectively, indicating more conclusively the higher age of men teachers.

The median age for the combined group of rural teachers in one-teacher schools is 22.8 years, which is approximately the same as the median age for the rural teachers in Nebraska,<sup>5</sup> and South Dakota in 1918,<sup>6</sup> 21.01 years and 22.14 years, respectively. The average age for the rural teacher in one-teacher schools in New York State in 1919 was 27 years.<sup>7</sup>

<sup>3</sup> The Rural Teacher of Nebraska, U. S. Bul., 1919, No. 20, p. 21.

<sup>4</sup> Va. Pub. Sch. Survey, 1919, p. 135.

<sup>5</sup> The Rural Teacher of Nebraska, U. S. Bu. of Educ., Bul., 1919, No. 20, p. 23.

<sup>6</sup> The Educational System of South Dakota, U. S. Bu. of Educ., Bul., 1918, No. 31, p. 211.

<sup>7</sup> Engelhardt, F. The Teaching Profession in the State of New York.

TABLE 3.—Total distribution and distribution of men and women teachers in one-teacher schools of 18 counties according to age, followed by 8 typical counties.

Age.	Total distribution (18 counties).	Men teachers.										Total.	Women teachers.							
		Typical counties.											Typical counties.							
		Total.	1	2	3	4	5	6	7	8	1		2	3	4	5	6	7	8	
18.....	129	19	.....	.....	2	1	3	1	2	1	5	2	3	8	2	11	11	7		
19.....	175	24	.....	.....	1	1	4	.....	.....	1	181	2	7	17	11	8	11	7		
20.....	207	26	4	1	1	.....	3	.....	.....	3	186	6	13	27	11	7	11	10		
21.....	148	22	.....	.....	1	2	8	.....	.....	1	126	4	13	20	12	7	7	.....		
22.....	98	18	.....	.....	1	.....	2	.....	.....	.....	80	2	8	15	8	1	.....	.....		
23.....	91	17	.....	.....	1	.....	1	.....	.....	.....	74	.....	6	11	4	.....	.....	.....		
24.....	74	19	.....	3	.....	1	.....	.....	.....	.....	55	1	6	17	3	.....	.....	.....		
25.....	60	16	1	5	.....	.....	4	.....	.....	.....	44	.....	2	11	6	.....	.....	.....		
26.....	34	11	.....	2	.....	.....	2	.....	.....	.....	33	1	1	6	1	.....	.....	.....		
27.....	25	6	.....	.....	.....	.....	.....	.....	.....	.....	23	.....	.....	4	.....	.....	.....	.....		
28.....	31	6	.....	.....	.....	.....	.....	.....	.....	.....	20	.....	.....	5	.....	.....	.....	.....		
29.....	32	7	.....	1	.....	.....	.....	.....	.....	.....	25	1	.....	3	.....	.....	.....	.....		
30.....	61	16	1	2	.....	1	.....	.....	.....	.....	35	1	.....	1	.....	.....	.....	.....		
31.....	26	6	.....	.....	.....	.....	.....	.....	.....	.....	25	.....	.....	3	.....	.....	.....	.....		
32.....	34	6	.....	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	2	.....	.....	.....	.....		
33.....	28	6	.....	.....	.....	.....	.....	.....	.....	.....	20	.....	.....	2	.....	.....	.....	.....		
34.....	35	15	1	3	.....	.....	.....	.....	.....	.....	32	.....	.....	2	.....	.....	.....	.....		
35.....	38	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	.....	.....	3	.....	.....	.....	.....		
36.....	32	9	.....	.....	.....	.....	.....	.....	.....	.....	23	.....	.....	2	.....	.....	.....	.....		
37.....	22	11	.....	.....	.....	.....	.....	.....	.....	.....	11	.....	.....	1	.....	.....	.....	.....		
38.....	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	.....	.....	2	.....	.....	.....	.....		
39.....	26	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
40.....	44	14	10	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
41.....	46	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
42.....	17	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
43.....	48	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
44.....	50	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
45.....	55	24	13	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
46.....	13	10	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
47.....	4	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Total.....	1,446	337	10	45	9	9	53	29	38	49	1,109	34	41	64	168	81	46	97		
Median.....	22.8	26.7	.....	.....	.....	.....	.....	.....	.....	.....	23.0	.....	.....	.....	.....	.....	.....	.....		
First quartile.....	20.3	21.4	.....	.....	.....	.....	.....	.....	.....	.....	20.1	.....	.....	.....	.....	.....	.....	.....		
Third quartile.....	26.6	41.8	.....	.....	.....	.....	.....	.....	.....	.....	27.1	.....	.....	.....	.....	.....	.....	.....		
Quartile deviation.....	4.7	10.0	.....	.....	.....	.....	.....	.....	.....	.....	2.6	.....	.....	.....	.....	.....	.....	.....		

## BEGINNING AGE OF TEACHERS.

Table 4 shows that the median age at which the 1,421 teachers represented began teaching is 19.2, and that the range extends from 15 to 32 years. The 123 teachers who reported their teaching as beginning earlier than at the age of 18 must have begun their work before the enactment of the Pennsylvania School Code of 1911. Twenty-six teachers reported as having entered the teaching profession at 25 or more years of age. The middle 50 per cent of this group ranges from 18.4 to 20.5 years, meaning that 710 teachers, or half the group, began teaching between these years.

TABLE 4.—*Distribution of teachers according to the age they began teaching—Total distribution, followed by 8 typical counties.*

	Beginning age.																		Total
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
Total distribution (18 counties)	3	24	96	525	318	222	114	54	27	12	3	8	5	3	1	2	3	1	1,421
Per cent	0.2	1.7	6.8	36.9	22.4	15.6	8.0	3.8	1.9	0.9	0.2	0.6	0.3	0.2	0.1	0.1	0.2	0.1	100
Typical counties:																			
1.	.....	.....	1	19	13	7	1	3	.....	.....	1	2	.....	.....	.....	.....	.....	.....	47
2.	.....	3	11	25	17	12	16	5	3	.....	.....	.....	.....	.....	.....	1	.....	.....	93
3.	.....	.....	1	29	17	12	2	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	63
4.	.....	.....	8	40	39	41	16	10	3	1	.....	.....	1	.....	.....	.....	1	.....	163
5.	.....	.....	16	61	23	15	7	4	3	1	.....	1	1	.....	.....	1	1	.....	143
6.	2	6	3	34	19	12	5	2	3	.....	.....	.....	.....	.....	1	.....	.....	.....	92
7.	.....	3	5	57	28	4	3	3	1	2	.....	.....	.....	1	.....	.....	.....	.....	107
8.	.....	2	15	36	31	12	8	5	3	1	.....	.....	1	1	.....	.....	.....	1	116
Median age.....	.....																		18.2
First quartile.....	.....																		18.4
Third quartile.....	.....																		20.6
Quartile deviation.....	.....																		1.1

## TEACHERS BORN AND REARED IN THE OPEN COUNTRY.

It has been pointed out repeatedly in the recent literature on rural education that one of the main factors in the success of rural teaching is to know rural life and be in sympathy with its problems. A circumstance which should help teachers secure an insight into and a sympathetic understanding of rural life and customs, especially in the case of those not trained professionally for rural teaching, is their being born and reared in the open country. In the light of this, it was thought advisable to tabulate the data as found in Table 5.

TABLE 5.—*Number of teachers in one-teacher schools born and reared in the open country, villages, boroughs, and cities—total distribution and per cent, followed by 8 typical counties.*

	Open country.	Village.	Borough.	City.	Total.
Total distribution 18 counties.....	1,003	92	164	99	1,358
Per cent.....	74	7	12	7	100
Distribution in typical counties:					
1.....	35	5	3	.....	43
2.....	64	4	9	.....	80
3.....	122	12	25	8	167
4.....	30	2	3	4	39
5.....	88	8	14	27	137
6.....	53	3	20	8	84
7.....	78	1	10	13	102
8.....	100	8	6	4	118

Among the 1,358 teachers who answered the question as to the place of their birth, 1,003, or 74 per cent, were born and reared in the open country; 92, or 7 per cent, in villages; and 19 per cent in boroughs and cities. Since it will be shown later that approximately three-fourths of these teachers had no professional training to fit them for teaching in rural schools,<sup>8</sup> it might, therefore, be considered fortunate that such a large proportion of the teachers represented in this study were familiar with rural life, and had received at least part of their educational experience in a rural school. Many county superintendents state that they would prefer to have teachers under their supervision who possess a sympathetic understanding of the life and customs of rural people rather than to have those who come from boroughs and cities with better academic preparation but unfamiliar with rural work.

## TEACHERS LIVING WITH PARENTS OR RELATIVES.

In reply to section 8 of the questionnaire, pertaining to the social life of the teacher, it was found that, out of the 1,160 replies, 739, or 64 per cent, reported they were living with their parents or relatives while teaching; but 348 out of the 739, or nearly half the number, were obliged to pay from their meager salaries a certain amount for board and room.

## TEACHERS MARRIED AND SINGLE.

Of the 336 men teachers replying to this part of the questionnaire, 184, or 55 per cent, were married. This probably is a fortunate situation, in that their homes may be made to serve as teacherages and in that it helps to improve the stability of the rural teaching force in many counties of the State. In considering the very small proportion of married women teachers, 60 out of 1,050, or approximately 6 per cent,

<sup>8</sup> See p. 34.

the question might well be raised, especially in these times of great scarcity of teachers, whether a special effort should not be made to induce and encourage more married women either to continue in the service or to reenter the profession of teaching.

### BOARD AND LODGING.

Out of the 1,450 replies received, 870, or 60 per cent, reported as paying for board and room. Of this number, 747 were women and 123 were men. The yearly and monthly cost of board and room for the teachers reporting these items of expense are shown in Tables 6 and 7. The outstanding feature of this information is the wide variation in the cost, both on the monthly and yearly basis. For example, it will be seen in Table 6 that the yearly cost of board and room ranges from less than \$50 to more than \$200. The median cost per year (generally considered the school year) is \$121, while the cost for 61 per cent of the teachers ranges from \$75 to \$150. Probably the most significant fact revealed by a study of this table is that 38 per cent of the teachers pay less than \$100 per year for board and room. It should be recognized that these data were collected in 1918, and that in the meantime this item of expense has been very greatly increased. Nevertheless, the facts seem to bear out the opinion generally held that the cost of board and room for rural teachers is considerably less than for urban teachers.

TABLE 6.—Yearly cost of board and room.

	Less than \$50.	\$50-\$74	\$75-\$99	\$100-\$124	\$125-\$149	\$150-\$174	\$175-\$199	\$200 or above.	Total.
Total distribution 18 counties	16	82	213	118	174	84	79	53	819
Per cent.....	2	10	26	14	21	10	10	7	100
Typical counties:									
1.....	1	5	6	7	5	2	1	—	27
2.....	—	3	4	2	12	5	6	—	36
3.....	2	3	21	24	36	19	16	4	125
4.....	—	1	19	1	7	1	1	—	30
5.....	1	4	13	11	15	6	4	13	67
6.....	—	11	14	—	4	1	—	—	30
7.....	1	7	21	16	—	—	—	2	51
8.....	2	10	18	2	1	—	—	—	33

Turning to the individual counties, it will be seen that there is considerable variation in the amount of money expended for board and room. Counties 5 and 8 show a median cost of \$133 and \$83, respectively. This difference can probably be somewhat explained by the fact that county 8 is principally an agricultural county, while county 5 contains a number of urban communities.

TABLE 7.—Monthly cost of board and room.

	\$6-\$8	\$9-\$11	\$12-\$14	\$15-\$17	\$18-\$20	\$21-\$23	\$24-\$26	\$27-\$29	\$30 or above.	Total.
Total distribution 18 counties	31	86	219	194	217	13	52	4	14	832
Per cent.....	4	11	26	23	25	2	7	—	2	100
Typical counties:										
1.....	—	1	6	11	11	—	1	1	1	29
2.....	3	4	9	9	13	—	2	—	1	41
3.....	2	14	32	27	43	6	10	1	2	127
4.....	8	8	24	20	19	3	6	—	2	90
5.....	—	7	3	9	27	1	17	—	2	66
6.....	—	14	9	2	7	—	—	—	—	33
7.....	1	9	23	11	9	—	—	—	1	54
8.....	6	9	16	5	1	—	—	—	—	37

The median monthly cost of board and room, as shown in Table 7, is \$18; the range extends from \$6 to \$30 or more per month. It will be further observed that 75 per cent of the teachers paid from \$12 to \$20 per month, and that 14 per cent paid less than \$12 per month.

TABLE 8.—*Number of months for which teachers pay for board and room.*

	Months.								
	For less	6	7	8	9	10	11	12	Total.
Total distribution 18 counties	21	16	489	178	76	15	.....	70	817
Per cent.....	.2	.2	.54	.22	.9	.2	.....	.9	100
Typical counties:									
1.....	3	2	27	9	76	.....	.....	4	32
2.....	.....	.....	9	14	.....	.....	.....	.....	43
3.....	2	.....	49	47	36	.....	.....	13	137
4.....	.....	2	50	17	8	8	.....	13	93
5.....	2	1	23	19	.....	.....	.....	15	48
6.....	2	2	28	1	.....	.....	.....	1	34
7.....	2	1	26	3	.....	.....	.....	2	36
8.....	4	.....	32	.....	.....	.....	.....	2	38

It will be seen in Table 8 that over 50 per cent of the teachers reported that they paid for board and room for seven months of the year, which is the length of the school term for a majority of the teachers in rural districts. Teachers who paid their living expenses for a period of eight and nine months usually taught in counties in which a large proportion of the school districts have eight and nine months' terms. Eleven per cent of the teachers had to meet these expenses for a period of 10 months or more, while only 9 per cent were obliged to meet them for the entire calendar year.

#### TEACHERS REMAINING OVER SATURDAY AND SUNDAY IN THE COMMUNITY IN WHICH THEY TEACH.

In most of the recent literature on rural education, particular emphasis has been placed on the matter of whether teachers live in the community in which they are teaching over the week end. It is maintained that in order to be of the best service in a particular school community a teacher should participate in and become a part of the social life of that community. With this idea in mind the following question was formulated: "Do you remain over Sunday in the community in which you teach?" The replies were as follows:

TABLE 9.—*Teachers spending week ends where teaching.*

	Number.	Per cent.
Teachers remaining in community Saturday and Sunday.....	485	48
Teachers not remaining in community Saturday and Sunday.....	477	47
Teachers remaining occasionally.....	45	5
Total number replying.....	1,007	100

In the first place, it should be noted that only 70 per cent of all the teachers replying to the questionnaire reported the above information, but of those reporting, 48 per cent, or slightly less than half, spent Saturday and Sunday in the community in which they were teaching. Since it will be recalled that 64 per cent of the teachers lived with parents or relatives, a large proportion of this group must be represented in the above 48 per cent.<sup>9</sup> While it was not found practical to trace each one of these individually in order to establish the proportion definitely, yet it was apparent that

<sup>9</sup> See p. 13.



an unusually large percentage were absent from the community at probably the most opportune time for participation in the social activities and life of the people.

#### INCOME APART FROM SALARY.

The salaries of the teachers under the supervision of county superintendents during the school year 1918-19 were unusually low, as will be discussed more at length in Chapter VII of this study.<sup>10</sup> It will be seen that the median salary of the teachers in the one-teacher schools is as low as \$411, with a large proportion receiving the small amount of \$315. As teachers can scarcely eke out an existence with such an income, it was deemed advisable to discover, if possible, what proportion of the teachers had an income apart from the salary which they received for teaching.

From the 810 teachers replying, or 56 per cent of the entire number included in this study, it was found that only 25 per cent stated that they had an income apart from their remuneration for teaching. Only two-thirds of this number, or 137 teachers, gave the exact amount of this extra income, which ranges from \$25 to \$1,000. Approximately one-third of the group had an income of less than \$100, and 25 per cent an income of not less than \$300, apart from their teaching salaries. The median amount reported is \$200, which also happens to be the mode, or the amount reported the greatest number of times. The information explaining how these teachers obtained additional income apart from their salaries was not given in most cases. However, a large proportion reporting the outside income have been usually men teachers who obtained from their small tracts of land a substantial livelihood independent of that received for their public-school work.

#### MONEY SAVED.

It is rather surprising to note that in spite of the fact that teachers in one-teacher rural schools receive such low salaries, approximately 40 per cent of the 1,024 teachers reporting, stated that they saved money. The amounts saved per year by these 420 vary from \$10 to \$400. For the group the median amount is \$100, which also chances to be the mode. One-fifth of the group saved from \$10 to \$50 per year, while slightly less than this proportion reported saving from \$200 to \$400.

To make a more thorough study of the economic life of the teacher one should trace each individual to determine how it is possible to save money from the amount of salary received. It was found, as a rule, that the teachers thus reporting were about equally distributed between the following groups, namely, those living with parents or relatives, consequently having very low living expenses, and those reporting an income apart from the salary received for teaching. However, those not living with parents and not having an outside income independent of their teaching constituted for the most part the group that did not save any money or did not make reply.

#### DEPENDENTS.

Only one-half of the teachers gave information relating to this question, and of the number reporting, 32 per cent stated that part of their salary was consumed in supporting dependents. Usually these teachers have one or two such persons wholly or partially dependent upon them, the amount of money expended for such purposes ranging from \$25 to \$350, with a median amount of \$175. On the whole, it appears that a fairly large proportion of the rural teachers were obliged either to support parents or relatives, or to give at least in part a substantial portion of their income for the maintenance of the home.

<sup>10</sup> See p. 60.

## INSURANCE AND BENEFICIAL ASSOCIATIONS.

Out of the 973 teachers who answered the question whether they "carry life insurance," it is interesting to learn that only 267, or 27 per cent, reported in the affirmative. The amount of money invested in insurance varies from \$5.20 to \$150, with an average amount of \$30 for the group. It would seem that these figures indicate a fairly large proportion both in number of teachers and amount of money expended in view of the very limited income of rural teachers.

Some of the teachers also reported having joined a beneficial association, with dues ranging from \$5 to \$15 per year. Only 13 per cent of those reporting had taken such precautionary measures against illness or accident. While the writer knows of two such organizations that have sprung up in the State within recent years, especially intended for the protection of teachers, it would seem from these facts that a very small proportion of the teachers in the one-teacher rural schools have availed themselves of such protection.

## AMOUNTS EXPENDED FOR PROFESSIONAL LITERATURE.

An unusually large number of these rural teachers subscribed for educational magazines and reference books for teaching. The kind of material will be discussed in the next chapter. However, it should be noted that a fair proportion of their income was thus expended.

TABLE 10.—*Amounts expended for educational magazines.*

	Cost of magazines.									Total.
	\$0.50	\$1.00	\$1.50	\$2.00	\$2.50	\$3.00	\$3.50	\$4.00	\$5.00	
Number of teachers.....	7	122	455	89	46	36	15	6	10	786
Per cent.....	1	16	58	11	6	4	2	1	1	100

This table shows that 786 teachers paid subscriptions ranging from 50 cents to \$5 for educational magazines. Approximately 58 per cent of the group invested the median amount of \$1.50, and 14 per cent paid from \$2.50 to \$5 for such magazines.

TABLE 11.—*Amounts expended for professional literature and reference books.*

	Cost of professional literature and reference books.											Total.
	\$1.00	\$2.00	\$3.50	\$5.00	\$7.50	\$10.00	\$15.00	\$20.00	\$30.00	\$40.00	\$50.00	
Number of teachers.....	62	63	44	74	25	24	10	12	3	1	3	321
Per cent.....	19	19	14	23	8	8	3	4	1	.....	1	100

Twenty-two per cent of the teachers reported investing money in professional literature and reference books ranging in amounts from \$1 to \$50; the median amount thus expended is \$3.50. In the light of the fact that a very small proportion of rural teachers have had professional training, it speaks well for them that there is so strong a tendency among this rural-teacher group, receiving such limited incomes, to invest money ranging from \$10 to \$50 in educational publications.

## Chapter III.

### THE TEACHER AT WORK.

In discussing the working conditions of the rural teachers in the one-teacher schools, it is the purpose not to examine them as elements of the organization of the school, but rather to consider them only in so far as they help to throw light on the status of the rural teachers, and explain the tremendous handicap under which they are obliged to work. A number of the topics touched upon herein but slightly might well be continued in a more intensive study.

#### NUMBER OF PUPILS.

As the size of the school is usually one of the first factors that is given consideration in studying conditions under which any particular group of teachers work, the teachers were asked in the questionnaire to state the number of pupils enrolled in their schools. Table 12 shows that 1,436 teachers reported in 1918 that their schools ranged in size from 3 to 68 pupils. The median number is found to be 26; the 25 percentile 19 and the 75 percentile 35, which facts show that 50 per cent of the teachers had schools under their charge ranging from 19 to 35 pupils.

TABLE 12.—*Number of pupils in one-teacher schools of 18 counties, followed by 8 typical counties.*

Number of pupils.	Total in 18 counties.	Typical counties.							
		1	2	3	4	5	6	7	8
3-5.....	16	1	1				1	1	
6-8.....	27	1			2		2	5	
9-11.....	50	1	2	1	7		10	3	6
12-14.....	169	5	6	8	12		12	6	4
15-17.....	126	4	2	3	15	4	17	11	10
18-20.....	156	6	6	3	17	11	13	12	9
21-23.....	132	4	4	2	16	9	7	7	11
24-26.....	157	8	4	3	24	11	13	2	16
27-29.....	190	4	3	5	11	18	10	1	11
30-34.....	205	1	4	7	21	32	8	3	12
35-39.....	138	5	1	6	36	18	13	1	15
40-44.....	120	3	3	4	10	28	2		15
45-49.....	39	2	2	1	4	9			5
50-54.....	33	1	1	2	3	6	1		4
55-59.....	8		1			1			1
60 or more.....	6					1			1
Total.....	1,436	46	40	39	159	138	109	52	120
Median number of pupils.....	26	24	24	31	25	32	21	18	23

In view of the very difficult and laborious work usually attributed to teachers in rural schools, it is gratifying that only 25 per cent of the teachers reported schools with an enrollment larger than 35 pupils, and that only 6 per cent of the teachers had 45 or more children under their direct charge. Nevertheless, it should be remembered that in these schools generally all grades from the primary to the eighth and frequently the ninth and tenth were represented.

There is also considerable variation in the size of schools among the 8 typical counties as found in Table 12, in that the median size of schools in county 7 is 18 pupils and in county 5 is 32. In 5 of the counties, however, the median number of pupils for each centers close about the median number for the entire group, namely, 26.

Just as we observe a marked variation in the pupil enrollment in one-teacher schools, so we may note a similar variation both in the number and kinds of grades.

TABLE 13.—*Distribution of grades in one-teacher schools.*

	Grades.										Total.
	1	2	3	4	5	6	7	8	9	10	
Number of schools.....		19	32	60	131	160	148	426	18	25	1,019
Per cent.....		1.8	3.1	5.9	12.9	15.7	14.5	41.8	1.8	2.5	100

It is noticeable in the preceding table that the range in grades extends from 2 to 10, with the median falling in the group reporting 7. Inasmuch as the largest number of schools are found to have 8 grades, it is evident that the county superintendents are carrying out the program suggested in recent years by the State department of public instruction of grading and grouping the pupils on an eight-grade basis, as has generally been practiced in the urban schools.<sup>1</sup>

Although a large proportion of the teachers, 72 per cent, have the pupils grouped in 6, 7, or 8 grades, yet it is quite significant that 23 per cent report 5 or less grades, and 4 per cent, 9 and 10 grades. The latter condition is usually found in schools in which the advanced pupils either repeat the grammar-school subjects or pursue the study of one or more high-school subjects which may possibly be added to the regular elementary school work. In the case of teachers reporting 5 grades, it is found that there are a number of one-teacher rural schools with large pupil enrollment who hold to the traditional scheme of grading their schools in 5 divisions.

A diversity of grading similar to that which prevails in the group as a whole is apparent in the different counties. Several of the counties show a fairly large proportion of schools with large pupil enrollment having 4 or 5 grades, while in two others 7 and 8 grade schools largely predominate, thus showing on the part of supervisory officers the pursuance of different policies of grading and grouping pupils.

#### NUMBER OF DAILY RECITATIONS.

The number of daily recitations in the program of the teachers in one-teacher schools for the 1,350 teachers reporting this information is shown in Table 14. The number of class recitations is found to range all the way from 9 to 50 per day. However, since only two teachers reported as having the almost incredible number of 50 recitations, it is probably safer to say that the upper range for the group is approximately 45 recitations per day. The median number is 25.6, falling within the largest group reporting 24 to 26 classes. The middle 50 per cent extends from 22 to 30 recitations. Probably the most significant fact revealed by these data is that 25 per cent of the teachers reported as having 30 or more class recitations per day, and 7 per cent of these 35 or more per day.

<sup>1</sup> Course of Study for Elementary Schools of Pa., 1913, State Dept. Pub. Instr. Koch et al., p. 9.

TABLE 14.—*Number of recitations per day in one-teacher schools in 18 counties, followed by 8 typical counties.*

Number of recitations.	Total, 18 counties.	Typical counties.							
		1	2	3	4	5	6	7	8
9-11.....	4	1			1	3	2		1
12-14.....	37				3	7	1		2
15-17.....	38				5	6	3	1	3
18-20.....	182		2	11	31	9	5	7	4
21-23.....	209	4	4	19	31	4	9	13	7
24-26.....	396	14	13	7	60	10	48	17	21
27-29.....	146	2	13	2	18	10	14	2	19
30-34.....	246	20	7	3	16	39	18	3	43
35-39.....	60	2	1		2	28	1		6
40-44.....	22				1	7	1	1	7
45-49.....	8				2	4	1		
50.....	2					2			
Total.....	1,350	43	40	42	168	129	103	44	113
Median number of recitations.	25.6	30	27	23	25	31	26	24	30

Since the length of the school day is approximately  $5\frac{1}{2}$  hours, or 330 minutes, exclusive of intermissions, it can be seen that teachers having 30 or more recitations per day would average approximately 10 minutes per recitation. These facts certainly give some proof of the very strenuous work that teachers in one-teacher rural schools are obliged to do, especially in a school of 25 or more pupils.

In the 8 typical counties represented in the table the medians range from 23 in county 3 to 31 recitations per day in county 5. Although the teachers in three of these counties report 30 or more recitations, we are glad to point out that the data show that three others of the group have an average of 25 or fewer recitations.

Since approximately 20 per cent of the entire group, as we have already pointed out, have 20 or fewer recitations per day, there seems to be direct evidence, at least in some of the counties, of a tendency to lighten the teacher's work and to improve her efficiency by following the suggestions of the State department of education in 1918 in the Course of Study for the Elementary Schools.<sup>2</sup> In the suggested daily program contained in the State course, the allotted time provides for 23 recitations per day, including the opening exercises. It is doubtful, however, whether in the average daily program for a rural school, with a fairly large enrollment of pupils divided into 7 and 8 grades, the required work can be covered with less than 25 recitations per day.

In comparison with the very limited data that we have from studies relative to the topic of class recitations in rural schools of other States, it would appear that Pennsylvania ranks very well. In South Dakota the number of daily recitations in open country schools was found to be 26.65.<sup>3</sup> In the State of Colorado the number of recitations for all the schools in the counties, including villages, averaged 22. However, in the one-teacher schools the number of recitations in many cases is reported as high as 37.<sup>4</sup>

#### RELATION BETWEEN NUMBER OF PUPILS AND NUMBER OF DAILY RECITATIONS.

In representing the relation between the number of daily recitations and the number of pupils enrolled, it will be seen in Table 15 that in the group of 141 teachers reporting an enrollment of 18 to 20 pupils the range in daily class recitations extends from 12 to 45, with a median of 26. In the case of the group of 198, with an enroll-

<sup>1</sup> Course study for Ele. Schs. of Pa. State Dept. Pub. Instr. Koch et al., p. 8.

<sup>2</sup> Educational System of S. Dak. U. S. Bu. of Educ. Bul., 1918, No. 31, p. 114.

<sup>4</sup> Administration and Support of the Colorado School System. U. S. Bu. of Educ. Bul., 1917, No. 5, p. 76.

ment of 30 to 34 pupils, there is an equally wide range in class recitations per day. Where the enrollment is over 35 there seems to be a tendency toward an increase in the number of recitations.

TABLE 15.—*Number of pupils in one-teacher schools in relation to number of daily recitations.*

Number of pupils.	Number of recitations.												Total number of pupils.
	9-11	12-14	15-17	18-20	21-23	24-26	27-29	30-34	35-39	40-44	45-49	50	
3-5.....		1	1	1	3	2							8
6-8.....		2	3	11	4	6	1						27
9-11.....		1	3	8	14	14	2	6					48
12-14.....		8	5	11	14	32	15	8	1	1			95
15-17.....	1	2	1	13	32	40	11	10	1				111
18-20.....		4	2	16	19	53	15	24	2	1	2		141
21-23.....		3	2	27	25	27	9	25	6	2	1		127
24-26.....		4	4	18	21	53	20	27	8	2			157
27-29.....		2	1	12	12	22	12	33	7	1			102
30-34.....	2	3	8	24	26	67	15	35	13	3	2		198
35-39.....	1		3	15	19	30	15	25	7	4		1	120
40-44.....		1	3	11	14	32	12	33	6	4	1		117
45-49.....		1		4	2	7	7	11	4	1			37
50-54.....			2	7	1	5	5	8	3		1	1	33
55-59.....				2		1	3	1	1				8
60 and over.....				1	1	2	2						6
Total number recitations..	4	32	38	181	207	393	144	246	59	22	7	2	1,335

$r=.20$  P. E. =  $\pm .018$ .

Looking at this table with the number of recitations primarily in mind, it will be seen that the teachers reporting class recitations in the class intervals from 18 to 20 and from 24 to 26 per day show practically similar distributions in the number of pupils enrolled, with the median number of pupils approximately 25 in each distribution. Beyond 27 daily recitations there is an evident increase in the number of pupils enrolled. The correlation, while positive, is not high, namely  $r=.20$  P. E. =  $\pm .018$  (Pearson's Product-Moment Method). This means that schools having the largest number of pupils enrolled do not necessarily have the greatest number of class recitations per day.

In discussing the number of pupils, the grouping into grades, and the number of daily recitations, it has been the purpose primarily not in any way to make an exhaustive study of each of these phases of the school, but rather to throw light, if possible, on the tremendously large and difficult task that many of the teachers in one-teacher rural schools are called upon daily to perform. An average enrollment of 26 pupils with 7 or 8 grades and a daily program of 26 or more recitations were typical of the average working conditions, not to mention the group of nearly 50 per cent of the teachers whose pupil enrollment, number of grades, and daily recitations far surpassed these averages.

In discussing further the working conditions of the teacher, we shall take into account the information given in the questionnaire concerning the agencies which should help to make their work more efficient during service. Therefore, we shall tabulate the answers given to parts 13, 14, and 15 of the questionnaire as found in chapter 1.<sup>5</sup>

#### SCHOOL LIBRARIES.

In answer to the question whether there was a school library, only 1,044, or 72 per cent, of the teachers replied. In Table 16 it will be seen that 31 per cent answered affirmatively, 41 per cent negatively, and 28 per cent did not reply.

<sup>5</sup> See p. 3.

TABLE 16.—*Per cent of teachers reporting school libraries, total per cent followed by 10 typical counties.*

	Total, 18 counties.	Typical counties.									
		1	2	3	4	5	6	7	8	9	10
Per cent reporting libraries.....	31	30	25	26	37	63	64	44	28	12	66
Per cent not reporting libraries.....	41	38	65	60	50	25	1	29	56	71	15
Per cent not replying.....	28	32	10	14	13	12	35	27	16	17	19

Great differences seem to exist among the separate counties. For example, in counties 5 and 10, school libraries were reported by 63 and 66 per cent of the teachers, respectively. On the other hand, counties 9 and 2 indicate the opposite extreme, in that only 12 and 25 per cent thus reported. The reason for these differences must be left largely to conjecture, since no definite information was given to indicate conclusively the exact causes.

The teachers were asked to state the approximate number of books filed in their libraries. These data are tabulated in the following table:

TABLE 17.—*Number of books in one-teacher school libraries.*

	Number of books.											Total.
	10	20	30	40	50	75	100	150	200	300	400	
Number of teachers reporting.....	53	85	64	31	76	30	43	23	14	5	4	423
Per cent.....	14	20	15	8	15	7	10	6	3	1	1	100

It will be noticed here that the range in number of books extends from 10 to 400. Nearly 50 per cent of the 423 teachers who gave this information reported libraries with less than 40 books, and 21 per cent reported libraries with 100 or more volumes. Although only 423, or 29 per cent of the whole number of teachers upon which this study is based, reported as having a definite number of books in their school libraries, yet these comparatively few teachers should be highly commended for the efforts exerted by them, frequently with the aid of pupils and oftentimes at a personal sacrifice.

#### ACCESSIBILITY TO OTHER LIBRARIES.

In reply to that part of question 13 of the questionnaire asking whether teachers had access to any other libraries for obtaining books and materials for teaching, it is interesting to note that 924, or 64 per cent, of the teachers replied, of whom 398, or 43 per cent, reported in the affirmative. In view of the slight variation among the different counties, this condition seems to have been quite prevalent throughout the counties represented in this study.

#### LOCAL INSTITUTES.

Since it is generally known that all teachers in Pennsylvania are obliged to attend either county or district teachers' institutes for five days, we shall not discuss in detail this agency as a means for the training of teachers. However, since most of the county superintendents in Pennsylvania encourage, or actively participate in the organization of many local or district institutes throughout their counties, the question was asked of the teachers, how far they availed themselves of this opportunity. There were 824 teachers who replied to this question, of whom 591, or 72 per cent, reported that they had attended such educational meetings. From this large proportion of

affirmative replies it is evident that local institutes play a part in helping to develop teachers in the rural districts.

In order to learn what opportunities the teachers in rural schools have for personal growth and development, they were asked whether they were members of a reading circle. Thirty-one per cent of the 1,617 teachers replying said that they were members of such an organization. This low percentage may probably be expected because of the physical difficulties that teachers in rural communities must necessarily experience in attending such meetings.

#### PROFESSIONAL LITERATURE.

To ascertain further the opportunities of which teachers in the one-teacher rural schools individually availed themselves, they were requested to state the kind of professional literature for which they subscribed, such as educational magazines and reference books. It is shown in the previous chapter that teachers expended a fairly large percentage of their salaries for material of this kind. Of the entire number of teachers comprising this study, 1,114, or 77 per cent, gave this information, of whom 1,015, or 91 per cent, reported that they subscribed for educational magazines. Among the number thus reporting, 879 gave the names of the magazines as described in the following table:

TABLE 18.—*Educational magazines subscribed for by teachers in one-teacher rural schools*

Kind of magazines.	Number.	Per cent.
Normal Instructor .....	460	52.3
Primary Plans .....	36	4.1
Primary Education .....	28	3.1
Popular Education .....	17	2.0
Educational Journal .....	7	.8
Child Life .....	3	.3
Pennsylvania School Journal .....	3	.3
Progressive Teacher .....	2	.2
Teacher's Work .....	2	.2
IN COMBINATIONS.		
Normal Instructor and Primary Plans .....	156	18.0
Normal Instructor and Pathfinder .....	62	7.0
Normal Instructor, Primary Plans and Pathfinder .....	17	1.9
Normal Instructor and Primary Education .....	13	1.5
Normal Instructor and Popular Education .....	11	1.3
Primary Education and Popular Education .....	10	1.2
Primary Plans and Popular Education .....	9	1.0
Normal Instruction, Primary Plans, Popular Education .....	6	.7
Normal Instruction, School Journal, and Pathfinder .....	4	.5
Normal Instructor and Educational Journal .....	5	.6
Educational Journal and Pathfinder .....	3	.3
Normal Instructor and The Century .....	3	.3
Normal Instructor and Educational Foundations .....	2	.2
Normal Instructor and Current Events .....	1	.05
Primary Education and The Century .....	1	.05
Miscellaneous .....	18	2.1
<b>Total .....</b>	<b>879</b>	<b>100</b>

From the data at hand we have no evidence as to how far these selections of educational magazines carried out the suggestions of the list of educational journals as submitted by county superintendents in the different counties, but in talking this matter over with several of the superintendents of counties represented in this study, the writer learned that in many cases the teachers followed the suggestions of an agent in selecting magazines either separately or in attractive combinations.

Besides the educational magazines in the foregoing list, a small percentage of the teachers reported as subscribing for the following magazines and periodicals: Review of Reviews, Home Economics, Good Housekeeping, Popular Mechanics, New Century, World's Events, The American, World's Work, Youth's Companion, Saturday Even-



ing Post, Geographic Magazine, Pathfinder, Current Events, Nature Study, Bird Life, newspapers, etc. None of the above was named more than 10 times, with the exception of the Pathfinder, which was named 48 times, Current Events, 35 times, and Geographic Magazine, 20 times.

Relative to reference books, approximately 22 per cent of the teachers gave information. The following were named most frequently: The Encyclopedia, the Dictionary, the Standard Dictionary of Facts, Century Book of Facts, Stoddard's Lectures, Book of Knowledge, Books on Teaching, Books on Theory, Story Books, Classics, Public School Methods, Supplementary Text Books, etc.

#### SUPERVISION BY COUNTY AND ASSISTANT COUNTY SUPERINTENDENTS.

Inasmuch as it is generally understood that scores of teachers in the rural schools are new and inexperienced in the work and frequently have very limited academic and professional training, it was deemed advisable to determine, to some extent at least, how much time was actually spent by county and assistant county superintendents with rural teachers for supervisory purposes. These data are tabulated in Table 19, of which Division A shows that the time spent by county superintendents in supervision, according to the replies of 1,006 teachers from 18 different counties ranges from a quarter of an hour to eight hours during the school year. The median is found in the group of 404, or 40 per cent of the number, who reported supervision for a period of one hour. It is most significant that 66 per cent of the teachers replied that county superintendents could spend only one hour or less in supervising their teaching work.

TABLE 19.—*Number of hours per school year teachers in one-teacher schools are supervised—Distribution for 18 counties, followed by 8 typical counties.*

##### DIVISION A.—COUNTY SUPERINTENDENTS.

Number of hours.	Total distribution, 18 counties.	Typical counties.							
		1	2	3	4	5	6	7	8
1/4.....	45		1			17	4	2	
1/2.....	215	4	12		6	45	12	16	23
1.....	404	12	31		8	38	15	38	35
1 1/2.....	71	6	4		1	4	2	13	5
2.....	159	7	6	3	1	10	8	3	8
3.....	38		2	2	1	2	4		3
4.....	39			4		1		1	1
5.....	17			1					
6.....	4								
7.....	6			3					
8.....	6		2	2					
Total.....	1,005	29	58	15	17	117	45	73	75

##### DIVISION B.—ASSISTANT COUNTY SUPERINTENDENTS.

Number of hours.	Total distribution, 18 counties.	Typical counties.							
		1	2	3	4	5	6	7	8
1/4.....	9	3					1		1
1/2.....	68	6	2		2	20	6		6
1.....	175		5		2	44	12		12
1 1/2.....	54		3		1	16	2		2
2.....	204	3	26		8	25	10		10
3.....	78		4		2	20	7		7
4.....	36		4		3		2		2
5.....	13		2			3	1		1
6.....	5					1	1		1
7.....	5		1		1	1			
8.....	10		3				2		2
Total.....	655	12	50		19	130	44		44

In observing the 8 typical counties in Division A, it is apparent that the range and median time spent in supervision are practically the same in all the counties with the exception of counties 3 and 7—the counties among the group according to Division B, that do not have supervision by assistant county superintendents. This is due to the fact that by law counties with less than 200 teachers are not entitled to an assistant superintendent.<sup>6</sup> But note the contrast—in county 3, having 22 one-teacher schools out of the approximate 60 schools supervised,<sup>7</sup> the teachers in the one-teacher schools reported supervision ranging from 2 to 8 hours; on the other hand in county 7 in which the number of schools approaches 200, with approximately 125 one-teacher schools,<sup>7</sup> very little supervision can necessarily be given to the rural teachers, as has been shown by the replies from two-thirds of the teachers, who stated that they have received one hour or less of the superintendent's time in supervision. While this latter county superintendent probably gave as much time in supervision to the schools as most of the others representing the group of 8 counties, the extra supervision received by the teachers in the other counties through their assistant superintendents was practically denied his county with 125 one-teacher schools by the rather arbitrary State law.

In Table 19, Division B, 655 teachers reported the amount of time spent in supervision by assistant county superintendents in their schools, respectively. While the range in time is the same as in the case of the county superintendents, the median is found in the group of teachers reporting two hours of supervision during the school year. Since 54 per cent, or over one-half, of the teachers in counties having assistant county superintendents reported supervision of two or more hours during the school year, it is apparent that teachers received, on the basis of the data reported, considerably more supervision from assistant county superintendents than from county superintendents. This condition would naturally be expected, inasmuch as the county superintendent is responsible not only for the supervision of every school under his jurisdiction, but also for the administration of his office. It seems remarkable that these school officials could devote as much time to the schools as herein reported, not only because of insufficient professional help, but in many cases because of the lack of sufficient clerical help and proper office facilities.

At this point the reader's attention should be called to Table 1 in Chapter I, in which are set forth certain difficulties relative to supervision in the various counties that county superintendents are obliged to face, such as the large number of one-teacher schools, sparsity of population, and size of county. To study the first of these problems more specifically, in county 41 the superintendent with only one assistant has 321 teachers under his supervision, of whom 197, or 61 per cent, are employed in one-teacher schools; in county 28 the superintendent with also one assistant superintendent has under his charge 307 teachers, with 197, or 64 per cent, in one-teacher schools; while in county 20 there are 373 teachers, with 311, or 83 per cent, one-teacher schools, likewise supervised by the superintendent with the aid of only one assistant superintendent. In counties 36 and 66 there are 650 and 571 teachers under the county superintendent's supervision, with 361 and 350 teachers in one-teacher schools, respectively; but the superintendent in the former county has 3 assistants, while in the latter the superintendent has but 2, although the two counties have practically the same number of one-teacher schools.

It would seem that in order to provide additional professional supervision for rural teachers, instead of using the arbitrary plan providing for one assistant for 200 to 400 teachers, and one additional assistant for 400 to 600 et cetera,<sup>8</sup> the number and distribution of one-teacher schools should be given careful consideration, to say nothing at

<sup>6</sup> School Laws of Pennsylvania, and appendix, 1919, Art. XI, sec. 1126.

<sup>7</sup> Teachers' directories issued by county superintendents, 1919-20.

this time of such other factors as the size of the counties, sparsity of population, and number and size of school districts.

It is not the purpose to elaborate on these data any further or to suggest possible constructive measures, but rather to set forth the situations in the State as they exist, namely, the lack of professional supervision and assistance given to teachers in the rural schools, and emphasis upon the need for immediate additional assistance for county superintendents, in order to make the time spent in supervising rural schools stall comparable with that devoted to supervision in borough and city schools. These conditions certainly must tend to discourage many of the teachers without any previous experience, and undoubtedly cause scores of them to enter urban schools or leave the profession altogether.

#### SCHOOLS VISITED BY SCHOOL BOARDS.

Since the school laws of Pennsylvania provide that "boards of school directors shall exercise general supervision over the schools of their respective districts, and shall, except in districts having district superintendents or supervising principals, by one or more of their number visit every school in the district at least once a month,"<sup>8</sup> the question was asked of the teachers in the rural schools whether the school boards had visited their schools the previous year. Of the entire number of teachers included in this study, 694, or 48 per cent, supplied this information. Sixty-nine per cent of those replying say that their schools were visited by the school boards, and the number is distributed in the following table:

TABLE 20.—Number and per cent of school directors visiting one-teacher rural schools.

	Number of directors.					
	1	2	3	4	5	Total.
Number of schools represented.....	141	134	108	58	65	506
Per cent.....	28	27	21	11	15	100

The median number of directors visiting schools is found in the group who reported visits by two directors, and in only 65, or 15 per cent, of the schools was it reported that the entire board consisting of five members observed the teacher actually at work.

TABLE 21.—Number and per cent of visits made by school directors in the one-teacher schools.

	Number of visits.										Total.
	1	2	3	4	5	6	7	8	9	10	
Number of schools represented...	294	88	33	15	13	5	12	8	8	2	433
Per cent.....	61	18.2	6.9	3.2	2.7	1	2.4	1.6	1.6	0.4	100

This table shows that the median number of visits made by school directors in one-teacher schools is found in the group reporting one visit. It may be interesting to point out that 294 reporting one visit comprise 61 per cent of the group. The school code, it should be recalled, provides that the boards shall exercise general super-

<sup>8</sup> School Laws of Pennsylvania, and appendix, 1919. Art. IV, sec. 408.

vision over the schools, but it does not specifically refer in any sense to their supervision of instruction.

This brings us to the question of whether school boards do give consideration to the judgment of county superintendents in the election or reelection of teachers to positions in their school districts. In reply to this question, as found in section 6 of the questionnaire, unfortunately only 50 per cent of the teachers have given this information. These replies are tabulated in the following table:

TABLE 22.—*Consideration that school boards give to judgment of county superintendents in the election or reelection of teachers.*

	Number.	Per cent.
No consideration.....	160	23
Little consideration.....	342	47
Much consideration.....	266	36
Total.....	725	100

In studying the above table and discounting the fact that only one-half of the teachers from the 18 counties comprising the study furnished this information, it is most significant to learn that 70 per cent of the teachers reported that the school boards gave none or very little consideration to the judgment of county superintendents in exercising their very important function of electing or reelecting teachers to the schools in their respective districts. When it is recalled that 31 per cent of the teachers reported that the school boards do not visit their schools, one can not help but point out the fact that teachers certainly receive very little intelligent consideration from many school boards as far as their professional welfare is concerned. These conditions emphasize all the more strongly the need for a centralized county organization, especially in its relation to local school boards, if the teachers in the one-teacher schools are to be assured of the consideration which they so rightly deserve.

#### COMMUNITY INTEREST AND SUPPORT.

In closing this discussion of the conditions under which the teachers in the rural communities are obliged to work, it is of interest to see just what support and cooperation the teachers in the one-teacher rural schools received from the patrons and residents of the school community. The teachers were asked to give this information in several parts of the questionnaire. In the first place they were asked, "Do you take part in a parent-teachers' association or any kind of community activity held in your school building?" The following table contains the replies:

TABLE 23.—*Teachers reporting parent-teachers' organizations and other community activities.*

	Number.	Per cent.
Teachers reporting parent-teachers' association or other community activities.....	293	28
Teachers who do not have such organizations.....	720	72
Total.....	1,013	100

It is quite apparent from the above replies that teachers in the rural communities have very little community cooperation and support in an organized way as is shown by the small percentage, 28, who reported such an organization. In some cases it may have been impossible to have such a community organization, but we are glad

to learn that teachers in many rural schools made it a practice to visit the homes in their respective communities and that the parents also frequently visited the schools. In reply to the direct question covering these facts, 515 teachers, or 36 per cent, reported that it was their practice to visit the homes of parents. The average number of homes visited by the group thus reporting is 7. At the same time, 483, or approximately 33 per cent, of the parents showed an interest in the work of the schools by making frequent visits during the school year. The average number of visits reported by this group is found among those who received eight such visits from parents.

In communities having one-teacher schools, interest and cooperation in the work of the public schools on the part of patrons and residents frequently has a very direct bearing upon the kind and condition of the school and especially upon the social and economic life of the teacher who is called upon to serve in such a community. This support and interest on the part of the citizens is undoubtedly as vital to the teacher's personal welfare as the support of county and local school officials is to her professional welfare.

## Chapter IV.

### ACADEMIC AND PROFESSIONAL TRAINING.

Because of the important part which the teacher's academic and professional training plays in the conduct of school, it is most essential that in a study of the rural teacher this phase should receive careful analysis. The facts in this discussion are based entirely upon the replies in the questionnaires furnished by the teachers themselves.

#### ELEMENTARY EDUCATION.

Table 24 shows for the year 1918 the elementary education of a group of 1,440 teachers in the one-teacher rural schools in 18 counties of the State. The range in years of the 1,192 teachers, or 80 per cent of the total group, receiving their early education in townships extends from 5 to 12 years, and of the 248, or 20 per cent, in boroughs, from 5 to 11 years. The median length of elementary education in both cases is found in the group reporting as having an elementary education of 8 years, which is the equivalent of 68.2 months on the basis of 7.6 months, the average length of school term for townships, and 70.8 months on the basis of 8.6 months, the average length of term for boroughs.<sup>1</sup>

TABLE 24.—*Elementary education in years of teachers in one-teacher schools in townships and boroughs—Total distribution and per cent for 18 counties.*

#### DIVISION A—IN TOWNSHIP SCHOOLS.

	Years.								Total.
	5	6	7	8	9	10	11	12	
Total distribution 18 counties.....	20	114	164	423	228	147	66	30	1,192
Per cent.....	2	9	14	36	19	12	5	3	100

#### DIVISION B—IN BOROUGH SCHOOLS.

	Years.								Total.
	5	6	7	8	9	10	11	12	
Total distribution 18 counties.....	4	28	46	119	26	23	2	.....	248
Per cent.....	2	11	19	48	10	9	1	.....	100

There is much similarity between Division A and Division B, as shown by the ranges and the medians. Probably the greatest difference between the two is found in their respective distributions, the former showing 39 per cent attending elementary schools for a period longer than 8 years, the latter only 20 per cent for practically the same length of time. It is probable that, among those teachers who report elementary

<sup>1</sup> See Table 46, p. 66.

education for a period of 11 or 12 years, high-school training may be included, inasmuch as they do not answer the part of the questionnaire pertaining to secondary education. This is more likely to be true in the case of the teachers receiving their elementary training in townships rather than in boroughs, since only 36 per cent of the former completed this education within the period of 8 years, as compared with 48 per cent of the latter.

These facts can be explained in part in that rural schools in townships frequently have classes that extend beyond the eighth grade of the elementary school. It is not at all uncommon to find nine grades and sometimes more in one-teacher rural schools. The highest, or "A," class in many of these schools frequently spends three or more years repeating the more advanced elementary-school subject, with the addition, probably, of algebra or Latin or some other high-school subjects, depending probably somewhat on the ability and choice of the individual teachers. This type of school, however, is rapidly passing out of existence, and in its place many school districts have developed a high school of the second or third class, or they have transferred the pupils to another district for instruction beyond the elementary grades.

In contrast with these facts, it is most interesting to note that the percentage of teachers attending elementary schools for a period of 7 years or less is as high as 32 per cent for those securing their early education in boroughs and 25 per cent for those receiving their early training in townships.

#### SECONDARY EDUCATION.

In examining Table 25, which shows the secondary education for the same group of 1,440 teachers in one-teacher rural schools from 18 counties of the State, it will be observed that 39 per cent of the teachers reported in the questionnaires that they had had no secondary education. Seven per cent had attended a secondary school for less than one year, 4 per cent for one year, 11 per cent for two years, 17 per cent for three years, and 22 per cent reported as having completed a four-year secondary-school course. It is only fair to state that inasmuch as the proportion of two and three year high schools available among the high schools of the State was, for example, 90 per cent in 1908 and 64 per cent in 1918, at least three-fourths of those reporting as having attended high school for two and three years were usually graduated from their high schools.<sup>2</sup> The 98 teachers stating that they had attended a secondary school less than a year in most cases attended a private academy, of which there are quite a number throughout Pennsylvania, ranking about the same as the high school.

TABLE 25.—*Secondary education of teachers in one-teacher schools—Total distribution for 18 counties, followed by distribution in 8 typical counties.*

#### DIVISION A—DISTRIBUTION BY YEARS.

	Teachers reporting.	Without secondary education.	With secondary education.	Years of secondary education.				
				Less than one year.	One year.	Two years.	Three years.	Four years.
Total distribution (18 counties).....	1,440	566	874	98	57	167	247	315
Distribution in typical counties:								
1.....	46	19	27	1	1	6	11	8
2.....	90	63	26	4	1	5	17	9
3.....	92	39	53	3	2	4	11	33
4.....	105	38	67	4	2	8	22	31
5.....	110	45	65	20	9	19	9	8
6.....	40	20	20	3	1	2	5	9
7.....	65	13	51	2	2	6	15	25
8.....	109	46	73	17	7	20	11	18

<sup>2</sup> Eleventh An. Rept. High School Inspectors, State Dept. of Educ. of Pa., July, 1918, p. 14.

TABLE 25.—*Secondary education of teachers in one-teacher schools. Total distribution for 12 counties, followed by distribution in 8 typical counties—Continued.*

## DIVISION B—DISTRIBUTION IN PER CENT.

Per cent.....	Teachers reporting.	Without secondary education.	With secondary education.	Secondary education in per cents.				
				Less than one year.	One year.	Two years.	Three years.	Four years.
	100	39	61	7	4	11	17	22
Distribution in typical counties:								
1.....	100	40	60	2	2	12	26	18
2.....	100	64	36	1	1	5	17	9
3.....	100	42	58	3	2	4	12	37
4.....	100	34	66	4	2	8	21	31
5.....	180	40	60	19	8	18	8	7
6.....	100	50	50	7	3	5	13	22
7.....	100	22	78	3	5	9	23	38
8.....	100	38	61	16	6	18	10	11

Among the group of 39 per cent constituting the teachers who reported no secondary education, it must be pointed out, as will be discussed more in detail in the next chapter,<sup>3</sup> that they held all types of certificates, and that 60 per cent of those holding permanent certificates reported that they had no secondary education. At the same time the answers showed that teachers just entering the profession with provisional certificates had the highest percentage of secondary school training.

Another consideration should be taken into account when interpreting these data, namely, that a small percentage of the teachers who reported no secondary education attended elementary schools in rural communities with 9 and 10 grades, of the type described earlier in this chapter. Then, again, a small proportion of those reporting only elementary educational preparation attended an academy or local county normal school for a period of six weeks before securing a teacher's certificate. In tracing the education of each teacher in a number of typical counties, it was found that this group constituted from 10 to 15 per cent out of the 39 per cent reporting no secondary education. This means, after making all possible deductions on the basis of the answers given by the teachers themselves, that on a very conservative estimate the number of teachers not having had any secondary education is approximately 25 per cent.

This conclusion is further corroborated by a recent study in teacher shortage made by the bureau of certification and training of teachers of the State department of public instruction, in which it is set forth that 25 per cent of the teachers holding provisional and professional certificates have had only elementary education, and that 2 per cent out of these 25 per cent had not even completed this elementary training.<sup>4</sup> This information was submitted to the State department by the county superintendents, and covers the teaching force for the current year 1919-20.

Two facts, however, should be kept in mind in analyzing the data issued by the State department: First, that teachers holding permanent certificates are not included, which, on the basis of this study, would undoubtedly raise the percentage of teachers not having had secondary education;<sup>5</sup> and second, that the data comprise all teachers under county supervision rather than the teachers in one-teacher schools, exclusively, tending therefore to lower the percentage of teachers without secondary education, since a much larger proportion of the teachers in one-teacher rural schools hold provisional and professional certificates than in the two-teacher rural, village, and borough schools.<sup>6</sup>

These facts would all the more strongly warrant the conclusion that, as before stated, 25 per cent of the teachers without secondary education in one-teacher schools

<sup>3</sup> See p. 46.<sup>4</sup> Study in Teacher Shortage, Dept. Pub. Instruction of Pa., 1919-20 (unpublished).<sup>5</sup> See p. 46.<sup>6</sup> See pp. 39, 40.



issurely not too high an estimate, and the exact per cent would likely be between the 25 per cent and the 39 per cent recorded by the teachers themselves in the questionnaires.

On the basis of the data presented, applying these percentages to the 10,000 teachers in one-teacher rural schools of the entire State, it would mean that approximately—

3,900 began teaching without secondary education; of these, 2,500 from the elementary schools without any additional training, 1,400 with ninth and tenth grade advanced elementary training.

700 with secondary training of less than one year.

400 with secondary training of one year.

1,100 with secondary training of two years.

1,700 with secondary training of three years.

2,200 completed a four years' secondary course.

10,000, total.

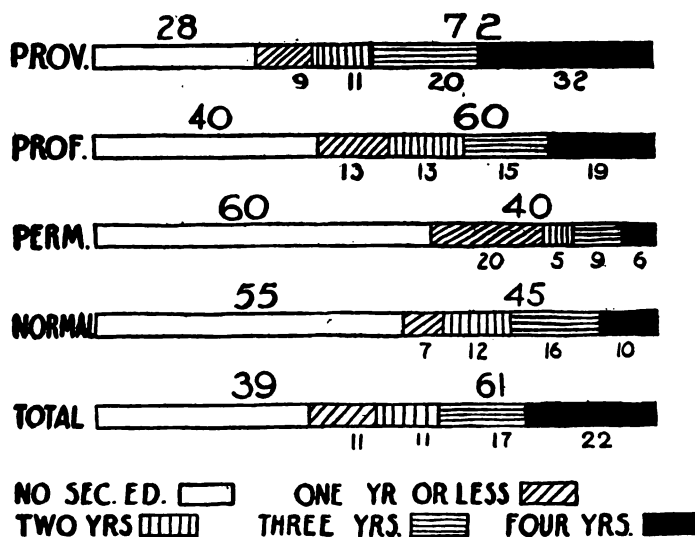


DIAGRAM 1.—Percentage of teachers in one-teacher rural schools, by certificates, on the basis of their secondary education.

The secondary education of the teachers represented in the 8 typical counties in Table 25, Division B, following the distribution for the entire group of 18 counties, shows considerable variation. In the first place the range in percentage of teachers having secondary education extends from 36 to 78. Among those who have finished a four-year course in a high school or an academy, the difference in per cent between the lowest county and the highest one is 31, county 5 indicating 7 per cent and county 7 indicating 38 per cent. While there is evidently considerable variation in the counties in the number of teachers spending less than four years in high school, the counties showing the large proportion of teachers with two and three years of high-school education possess a goodly number of two and three year high schools, respectively, throughout their counties.<sup>7</sup>

Counties 5 and 8 stand out prominently because of the large number of teachers who reported attending secondary schools less than one year. This may be due in part to the fact that private academies are located in these counties offering both to teachers in service and to prospective teachers a spring or summer normal course for a period of six weeks. While it is not our purpose at this point to discuss fully these academies which conduct normal school courses, yet the influence of these schools in

<sup>7</sup> Eleventh An. Rept. Pa. State H. Sch. Inspectors, p. 14.

the counties where they are located is quite marked, as will be shown in the latter part of this discussion dealing with the training of teachers in service. The counties that have this type of school show a higher percentage of teachers with academic or professional training than those counties which do not possess schools offering similar opportunities either for prospective teachers or for teachers in service.

In comparison with other States from which we have data, it appears that Pennsylvania on the basis of this study does not rank very well in the number of teachers with secondary education in one-teacher rural schools. It should be remembered that the percentages for Pennsylvania are strictly for one-teacher schools and that in some of the other States cited all rural schools, including village schools of two and more than two teachers, were considered.

TABLE 26.—*Education of teachers in one-teacher rural schools.*

	Ala- bama. <sup>1</sup>	Colo- rado. <sup>2</sup>	Nebras- ka. <sup>3</sup>	Pennsyl- vania.	South Dakota. <sup>4</sup>	Vir- ginia. <sup>5</sup>
Elementary education only.....	16.0	7	4	25	.....	9.6
One year of high school or less.....	10.1	.....	9	18	.....	3.5
Two years of high school.....	17.2	16	16	18	.....	9.4
Three years of high school.....	18.0	.....	15	17	.....	10.2
Four years of high school.....	38.0	35	36	22	58	41.0

<sup>1</sup> Educational Study of Alabama, U. S. Bu. of Educ., Bul., 1919, No. 41, p. 349.

<sup>2</sup> Administration and Support of the Colorado School System, U. S. Bu. of Educ. Bul. 1917, No. 5, p. 74.

<sup>3</sup> The Rural Teacher of Nebraska, U. S. Bu. of Educ. Bul. 1919, No. 20, p. 31.

<sup>4</sup> Educational System of S. Dakota, U. S. Bu. of Educ. Bul., 1915, No. 31, p. 213.

<sup>5</sup> Virginia Public School Survey, p. 334.

<sup>6</sup> See explanation p. 31.

<sup>7</sup> Per cents do not total 100.

### PROFESSIONAL TRAINING.

To consider the professional training of this group of teachers in the one-teacher rural schools means, under the present certificate system in Pennsylvania, practically the exclusive consideration of those teachers who have attended a State normal school. This information is tabulated in Table 27, which shows that, out of 1,445 teachers, 1,105, or 76 per cent, report having had no State normal school training. This indicates that the remaining 340, or 24 per cent, attended a normal school for a period ranging from 6 weeks to 4 years in length, of which number 264, or 18 per cent completed the normal school course. It will be seen that this percentage of normal school graduates is higher than the average, which is 14 per cent for the entire State of Pennsylvania, based on the reports of 28 counties in 1919, as will be explained in the next chapter.<sup>a</sup> This helps to substantiate the view that a good proportion of the better educated and professionally trained teachers in each of the counties represented in this study answered the questionnaires.

TABLE 27.—*Distribution of teachers on the basis of normal school education in preparation for teaching—Total distribution for 18 counties, followed by 8 typical counties.*

	Teachers report- ing.	With- out normal school educa- tion.	With normal school educa- tion.	Normal school education.					Nor- mal school grad- uates.	Per cent with normal school educa- tion.	Per cent normal school grad- uates.
				Less than 1 yr.	1 yr.	2 yrs.	3 yrs.	4 yrs.			
Total distribution 18 counties.....	1,445	1,105	340	40	42	142	91	25	264	.....	.....
Per cent.....	100	76	24	3	3	10	6	2	18	.....	.....
Distribution of Typi- cal Counties:											
1.....	47	34	13	9	2	2	.....	.....	2	28	4
2.....	99	43	60	6	6	21	20	7	55	61	56
3.....	62	43	19	4	2	8	6	.....	13	31	21
4.....	40	28	12	.....	5	5	1	1	5	30	13
5.....	110	68	41	2	16	18	4	1	37	37	34
6.....	53	37	16	3	1	4	5	3	12	30	23
7.....	107	83	24	5	3	10	3	3	13	22	12
8.....	119	99	22	11	2	5	4	.....	9	18	7

<sup>a</sup> See p. 40.

The largest group of teachers, namely 10 per cent, of those reporting State normal school education had attended for a period of two years, indicating that these either had graduated from a four-year high school and spent two years in a normal school, or had attended a State normal school for a period of two years under what was known as the two-year course which existed for a period of years prior to the year 1904.<sup>9</sup> During that time it was possible for a student to complete the elementary school and graduate from a normal school in two years without any preliminary education. From 1904 to 1914, normal schools in Pennsylvania had what was known as a three-year course, which admitted students either from an elementary school or from a high school, meaning that the 6 per cent group in the table attending a normal school for three years in most cases had entered the school without any high-school education. The 25 teachers reporting that they had attended a normal school for four years are usually persons who had gone to the normal school directly from the elementary grades, thereby making it serve both as the secondary school and the professional training school.

In the individual counties following the general distribution, the range in per cent of teachers having attended a normal school extends from 18 to 61, while for those who completed the normal course, the per cents range from 4 to 56. Counties 2 and 5, having the largest number of teachers who attended and graduated from a normal school are 2 of the 13 counties of the State in which State normal schools are located.

Undoubtedly the most significant fact as brought out in these data is that at least 76 per cent of the teachers in the one-teacher schools entered upon their work without professional training in State normal schools by the examination route, made possible by the Pennsylvania certificate system, which will be discussed more at length in the next chapter. We have very little comparative data from other States pertaining exclusively to the rural school teacher, yet from the meager information we do have, it appears that Pennsylvania ranks very low. For example, in South Dakota, according to the recent school survey of that State, it is estimated that 45.8 per cent of the teachers attended professional schools and that 54.2 per cent entered the rural schools without professional training.<sup>10</sup> In Alabama it is also estimated that 63.6 per cent of the teachers teaching in rural and village schools had no professional preparation.<sup>11</sup> While the rural schools as defined in both of these surveys may not be as closely confined to the one-teacher school as in this study, yet the comparison is most significant in that Pennsylvania, on the basis of the number of cases represented in this discussion, ranks lower than a typical western and a typical southern State.

In New York State only 8 per cent of the teachers in one-teacher schools are graduates of State normal schools, a percentage considerably lower than that for Pennsylvania.<sup>12</sup> However, "approximately 60 per cent of the teachers in these schools have had one year of professional training in training classes either added to four years of high school, or added to an incomplete high-school course."<sup>13</sup> Since the State of Pennsylvania has no teacher training institutions specially intended to prepare elementary teachers other than the 13 State normal schools, it would seem at least on the basis of comparison with our neighboring State New York, with its 11 State normal schools, that these facts give us additional evidence in favor of the immediate establishment of larger and more adequate teacher training facilities in Pennsylvania.

<sup>9</sup> Pennsylvania State Nor. Sch. catalogues. Proc. State Normal School Principals.

<sup>10</sup> Educ. System of S. Dak., U. S. Bu. of Educ. Bul., 1918, No. 31, p. 231.

<sup>11</sup> Educ. Study of Alabama, U. S. Bu. of Educ. Bul., 1919, No. 41, p. 349.

<sup>12</sup> See p. 40.

<sup>13</sup> Engelhardt. "The Teaching Profession in the State of New York."

TABLE 28.—*Distribution of normal-school graduates in one-teacher schools for 18 counties on the basis of preliminary secondary education.*

	Normal school graduates.	Without secondary education.	With secondary education.	Years of secondary education.				
				Less than 1 year.	One year.	Two years.	Three years.	Four years.
Total distribution 18 counties.....	284	144	129					
Per cent.....	100	55	45	4	13	32	43	28
				2	5	12	16	10

An important observation that can be made from these data is the great variation in the amount of time actually spent in a normal school. This can probably be best explained by observing Table 28, which shows the percentage of the group of normal school graduates referred to in Table 27 from the standpoint of their preliminary secondary education. The range in time spent in a secondary school extends from six weeks to four years. Of the 45 per cent, or less than one-half, of the normal school graduates reporting as having had preliminary secondary education only 10 per cent had finished a four-year high-school course, and 16 and 12 per cent stated that they had three years and two years of high-school education, respectively. It is, indeed, most interesting to note that 55 per cent of the teachers holding normal-school certificates or diplomas had gone directly to a State normal school without any secondary education.

These data help to explain the tremendous variation in length of time spent in the normal schools by those who had graduated, as was brought out earlier in this discussion. Since the normal schools in Pennsylvania have been admitting students with all kinds of academic preparation, ranging from the pupil who had finished the eighth grade in the elementary school to one who had completed a four-year high-school course, it is quite evident that one must naturally expect to find such tremendous variations both in the case of the preliminary secondary education and in that of the time spent in the normal school.

#### ACADEMIC AND PROFESSIONAL TRAINING DURING SERVICE.

The different kinds and amount of academic and professional training of which the teachers in the one-teacher schools avail themselves during service are tabulated in Tables 29 and 30. In the first place, it should be noted that only 1,085, or approximately 75 per cent, of all the teachers who replied to the questionnaire gave this information. Of those who reported, 676, or 62 per cent, have had no academic or professional schooling since entering the teaching profession. Of the 38 per cent who reported such supplementary training 10 per cent attended summer academies, 8 per cent summer local or county normal schools, 12 per cent summer normal schools, and 6 per cent summer colleges, all ranging from one to four summer terms of six weeks each. In studying more in detail the kind of institution selected by these teachers in individual counties, it was found that two factors predominated in determining this selection—first, the kind of certificate held by the teacher, and second, the kind of school most accessible. The former was found true from the fact that teachers usually select a school that helps them to obtain the academic schooling in such branches as algebra, general history, plane geometry, etc., studies in which they are called upon to pass an examination to qualify for either a professional or permanent certificate. This will be more specifically discussed in the next chapter in considering the academic and professional preparation and training in service of the teachers holding the different types of certificates.

TABLE 29.—*Supplementary academic and professional training of teachers during service—Total distribution for 18 counties followed by 8 typical counties.*

	No training during service.	Training during service.	Summer academy.					Summer local or county normal school.					Summer State normal school.					Summer college.					Correspondence and miscellaneous.				
			Weeks.					To-tal.	Weeks.					To-tal.	Weeks.					To-tal.	Weeks.					To-tal.	
			6	12	18	24	6		12	18	24	6	12		18	24	6	12	18		24	6		12	18		24
Total distribution (18 counties).	676	409	41	37	18	13	109	48	29	5	11	93	64	28	18	19	129	44	12	4	..	60	18				
Typical counties:																											
1.....	22	16	1	1	..	..	2	1	3	2	3	9	2	1	..	1	4	1	..	..	..	1	..				
2.....	19	17	..	..	..	..	..	5	3	3	2	13	..	2	2	6	2	2	..	..	..	2	..				
3.....	65	23	1	..	..	..	..	..	..	..	..	..	4	3	2	6	15	5	1	..	..	6	1				
4.....	40	21	5	..	2	1	8	1	1	..	..	2	4	3	..	..	7	2	1	..	..	3	1				
5.....	76	34	2	1	..	..	3	..	..	..	..	13	5	2	..	22	4	2	1	..	..	7	2				
6.....	56	46	7	6	3	5	21	4	3	1	3	11	3	3	2	1	9	2	1	1	..	4	1				
7.....	39	9	..	..	..	..	..	1	1	..	..	2	1	..	..	1	4	..	1	..	..	5	1				
8.....	56	53	10	5	3	1	19	6	9	4	2	21	..	5	3	2	10	2	..	..	..	2	1				

TABLE 30.—*Supplementary academic and professional training of teachers during service in per cent—Total distribution for 18 counties followed by 8 typical counties.*

	Per cent without training during service.	Per cent with training during service.	Summer academy.	Summer local or county normal school.	Summer State normal school.	Summer college.	Correspondence and miscellaneous.
Total per cent (18 counties).	62	38	10	8	12	6	2
Typical counties:							
1.	58	42	5	24	10	3	..
2.	53	47	..	36	6	5	..
3.	74	26	1	..	17	7	1
4.	66	34	13	3	11	5	2
5.	69	31	3	..	20	6	2
6.	55	45	20	11	9	4	1
7.	81	19	..	4	2	11	2
8.	51	49	18	19	9	2	1

The second factor above referred to may best be illustrated by looking into the supplementary training of this group of teachers as shown in the 8 typical counties constituting the second part of the table. For example, in counties 3 and 5 the larger proportion of the teachers attended the summer session at one of the State normal schools. Since each of these counties has a State normal school located within its boundaries, naturally the school is most accessible for the teachers, and this caused them to select this school intended primarily for teacher training. On the other hand, in counties 6 and 8 a large proportion of the teachers select courses in summer academies and local or county normal schools. Both of these counties show a very small proportion of teachers attending a summer State normal school. According to the information obtained from the county superintendent, in the case of county 8 there are two private academies and four summer local or county normal schools. The latter are usually conducted by high-school principals in certain parts of the county who, probably with the aid of one or two additional teachers, provide a number of academic courses especially intended to prepare teachers to qualify for examinations, either for additional subjects to the certificate already held or possibly for the next higher certificate. In many cases the professional training in these schools is limited to a class in school management, using one of the well-known traditional texts in the development of the subject.

One other observation should be pointed out. It was found that the counties which show the lowest percentage of teachers who avail themselves of the opportunity of supplementary education or training are usually the ones which have the least number of available schools offering courses during the summer months. It seems very evident from these facts that the accessibility of the school or schools found in any particular county has a direct bearing on the kind and amount of academic and professional training of teachers in rural schools.

It would seem from the material presented in this discussion, indicating in the first place a very low proportion of teachers having secondary education and a still larger proportion that have no professional training, that in order to raise the standards of the teaching force in our rural schools the matter of providing a larger number of

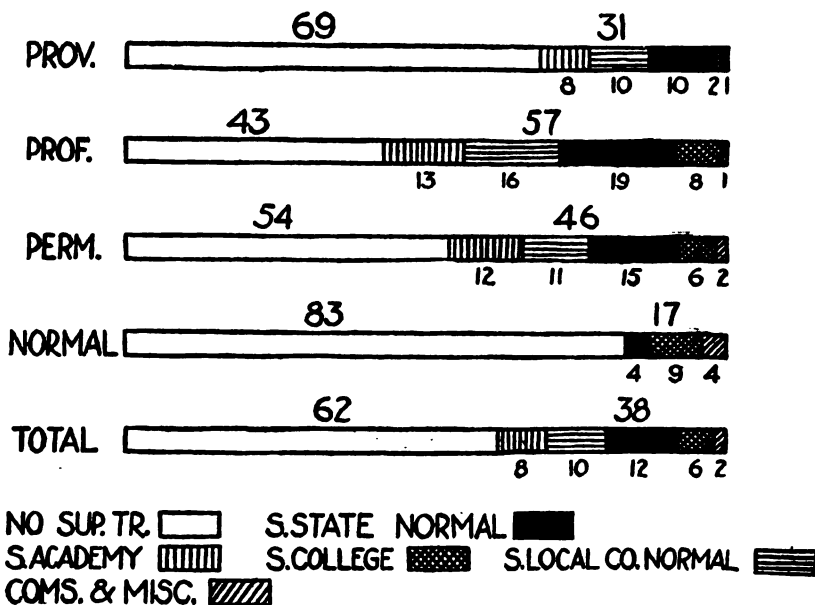


DIAGRAM 2.—Percentage of teachers in one-teacher schools on the basis of their supplementary academic and professional training during service.

schools offering both academic and professional training is one of the most pressing educational questions before the State at the present time. The 13 counties in which the State normal schools are located have a very great educational advantage in providing facilities for training teachers as opposed to the 53 counties not having such schools in their midst. Whether the additional training for rural teachers in Pennsylvania can best be conducted in high schools—the plan followed in the State of Minnesota<sup>14</sup>—or in county training schools, of which Wisconsin has furnished us a notable example,<sup>15</sup> it is not within the scope of this monograph to suggest. But all will agree that it shows unmistakably that something must be done in the remainder of these 53 counties not possessing State normal schools to increase the supply of academically and professionally trained teachers to meet the great demand for teachers to fill the schools under county superintendents' supervision and especially the one-teacher schools in the open country.

<sup>14</sup> Foght. The Rural School System of Minnesota, U. S. Bu. of Educ., Bul., 1915, No. 20, p. 43.

<sup>15</sup> Laws of Wisconsin Relating to County Training Schools, sec. 411.

## Chapter V.

### CERTIFICATION.

There are seven different kinds of teachers' certificates issued in Pennsylvania—provisional and professional, valid only in a county or district, and permanent State certificates, normal-school certificates, normal-school diplomas, provisional college certificates, and permanent college certificates, valid throughout the State. The four kinds of certificates commonly held by rural teachers may be described as follows:<sup>1</sup>

TABLE 31.—Principal features of teachers' certificates in Pennsylvania.

NAME OF CERTIFICATE.	ISSUED BY—	VALID IN—		DURATION.	PERSISTENCE
Provisional.....	County or district superintendent.	County or district (nonindorsable).	Branches named.	One year.....	May not teach more than 5 school terms on certificate.
Professional.....	County or district superintendent.	County or district (indorsable by other county or district superintendents in districts of 2d or 3d class).	....do.....	Three years.....	Not renewable more than 3 times; renewable on examination in 2 of the elective branches for a professional certificate not before offered by the applicant.
Permanent.....	State superintendent of public instruction.	State.....	....do.....	Life.....	
State normal-school certificates.	State normal school.	....do.....	....do.....	Two annual school terms.	
State normal-school diploma.	State normal school.	....do.....	....do.....	Life or term of years.	

There is, in addition, one other type of certificate held by a small proportion of teachers in elementary schools under the supervision of county superintendents—the county permanent certificate, discontinued through the adoption of the new Pennsylvania School Code in 1911. Since the number of teachers holding these certificates is small and since the certificates are valid for life, they will be included with the permanent State certificates.

Inasmuch as the number of teachers holding the college provisional and permanent certificates in the elementary schools in townships and boroughs under county supervision is so small as to be practically negligible, it is also deemed advisable not to consider these types of certificates. Thus it will be the purpose in this study to see the working out in actual practice of the provisional, professional, and permanent certificates, based practically on examination, and State normal-school certificates and diplomas issued as a result of attendance in a State normal school.

<sup>1</sup> Pennsylvania School Laws, and appendix, 1919, Art. XIII, secs. 1301-1324. Updegraff, Harlan. Teachers' Certificates Issued under General State Laws and Regulations, U. S. Bu. of Educ. Bul., 1911, No. 18, p. 96.

CERTIFICATES HELD BY TEACHERS IN ONE-TEACHER SCHOOLS.

The number and proportion of the different types of certificates held by teachers in township districts of 28 counties of the State in the current year 1919-20 will be found in Tables 32 and 33, which represent 5,131 teachers, of whom 4,217 are in one-teacher schools, and the remainder, 914, in schools of two and more than two teachers. These statistics include all the teachers in townships listed on the official directories issued by the counties in the fall of 1919. The county superintendents indicated on these directories the kind of school taught and the certificate held by each teacher working under their supervision.

TABLE 32.—Number of teachers in elementary one-teacher schools, and two and more than two-teacher schools, according to kind of certificates held, in 28 counties of the State.

No. of county.	Division A.—One-teacher schools.						Division B.—Schools of two and more than two-teacher schools.					
	Certificates.						Certificates.					
	Pro- vi- sional.	Pro- fes- sional.	Per- ma- nent.	Nor- mal.	Col- lege.	Total.	Pro- vi- sional.	Pro- fes- sional.	Per- ma- nent.	Nor- mal.	Col- lege.	Total.
1	142	41	28	9	2	219	21	14	4	7		46
2	75	41	16	11		143	3	1	3	4		11
3	126	79	4	2		211	8	16	2	3		99
4	73	41	9	2	3	128	34	43	9	16	1	102
5	72	60	10	48		190	7	14	4	14		39
6	78	44	11	45	1	179	11	13	2	40	1	87
7	113	40	9	56		218	13	8	4	13		38
8	131	39	8	1		179	52	22	12	6		92
9	13	24	22	1		60	1			1		2
10	26	12	4	5	1	48	1	6		5		12
11	41	4	20	147	4	216	1		9	14		24
12	26	13	1	9	2	51						
13	55	21	22	51		149	3	4	1	7		15
14	72	32	11	8		123	8	1		3		12
15	93	54	12	2		161	5	5	4	3		17
16	35	16	8	10		69	2	1		1		4
17	183	64	45	67		359	18	14	14	14		60
18	31	18	2	3		54	3	3	1	1		8
19	53	26	13	15		107						
20	62	25	19	16		122	3	2		5	1	11
21	60	22	10	9		101	5		7	2		14
22	62	42	10	26		143	14	15	3	13		45
23	169	60	8	4		241	26	20	1	4	1	52
24	24	12	6	3	1	47	5	13	5	1		24
25	71	20	26	1		118	4					12
26	57	35	7	9		107	10	18	12	39	1	80
27	72	39	11	19		140	13	10	4	10		37
28	176	56	80	26		338	22	14	20	5		61
Total	2,186	981	429	606	14	4,217	293	257	129	239	5	914
Range	13-189	4-79	1-86	1-147		47-369	0-52	0-43	0-29	0-19		0-102
First quartile	41	20	8	3		101	3	1	1	2		12
Median	71	29	10	9		140	7	8	4	5		24
Third quartile	93	42	19	26		190	13	14	7	13		46
Quartile deviation	28	11	6	12		45	5	7	3	6		12



# 40 STATUS OF RURAL TEACHER IN PENNSYLVANIA.

TABLE 33.—Percentage of teachers in elementary one-teacher schools, and two and more than two-teacher schools, according to kind of certificates held, in 28 counties of the State.

No. of county.	Division A.—One-teacher schools.				Division B.—Two and more than two-teacher schools.			
	Certificates.				Certificates.			
	Provi-sional.	Profes-sional.	Perma-nent.	Normal.	Provi-sional.	Profes-sional.	Perma-nent.	Normal.
1.....	65	19	11.0	4.0	45	31	9	15
2.....	52	29	11.0	8.0	27	9.1	27	36
3.....	60	37	2.0	.9	27	55	7	10
4.....	57	32	7.0	1.5	34	42	8	15
5.....	38	31	5.2	25.0	18	36	10	36
6.....	42	25	6.0	26.0	16	20	3	60
7.....	52	18	4.1	25.6	34	21	10	34
8.....	73	22	4.4	.5	56	24	14	6
9.....	22	40	36.0	1.6	50	.....	.....	50
10.....	54	25	9.0	10.4	8	50	.....	42
11.....	19	2	9.2	68.0	4	.....	38	58
12.....	51	25	1.9	18.0	.....	.....	.....	.....
13.....	37	14	15.0	34.2	20	26	6.6	47
14.....	58	26	9.0	7.0	66	8	.....	25
15.....	58	33	7.4	1.2	29	29	24	18
16.....	51	23	11.0	15.0	50	25	.....	25
17.....	51	18	13.0	18.0	30	23	23	23
18.....	57	33	3.7	5.5	38	38	12	12
19.....	50	24	12.0	14.0	.....	.....	.....	.....
20.....	51	20	16.0	13.0	27	18	.....	45
21.....	60	22	10.0	8.9	35	.....	50	14
22.....	43	30	7.0	20.0	31	33	7	29
23.....	70	25	3.3	1.6	50	39	2	7.6
24.....	51	28	13.0	6.3	21	54	20	4.1
25.....	60	17	22.0	.9	33	.....	67	.....
26.....	53	33	6.5	7.4	13	23	15	49
27.....	51	28	8.0	13.0	35	27	11	27
28.....	52	16	24.0	7.6	36	23	33	8
Total per cent.....	52	24	10.0	14.0	32	29	14	25
Range.....	19-73	2-40	1.9-36	0.5-68	4-66	0-55	0-67	0-60
First quartile.....	50	19	5	1.6	20	18	2	10
Median.....	52	25	9	8	30	25	10	25
Third quartile.....	57	30	12	18	36	36	20	36
Quartile deviation.....	5.3	5.5	3.5	8.2	8	9	9	8

<sup>1</sup> College certificate teachers in Table 32 not included.

From these tables it will be observed that 2,186 of the 4,217 teachers in the one-teacher schools hold provisional certificates; in other words, 52 per cent hold the lowest possible type of certificate in order to qualify as a teacher in the public schools of Pennsylvania. The number holding the professional or second kind of certificate is 981, or 24 per cent of the total number. Thus, 3,167, or 76 per cent of the entire number, hold certificates obtained through examinations given exclusively by county superintendents, while 24 per cent hold permanent State certificates and normal school certificates or diplomas. But only 606, or 14 per cent of the entire group, hold normal school certificates and diplomas. If, however, county 11, which has an unusually large number of normal school graduates, were eliminated, the remaining 27 counties would have but 459 out of 4,001, or 11.5 per cent normal school graduates in their one-teacher rural schools.

Assuming that the proportion of normal school graduates in these counties is typical of the State as a whole, it will be seen that on the basis of 14 per cent for the 28 counties there would be approximately 1,400 normal school graduates among the 10,000 teachers in one-teacher schools throughout the whole State. However, if the average for the 27 counties, 11.5 per cent, is taken as a basis, there would be approximately 1,150 normal school graduates teaching in these counties. Since, according to the annual report of the State superintendent of public instruction for 1918, there were 7,404 normal school graduates teaching in the 23,800 schools under county supervi-

sion,<sup>3</sup> there are approximately 6,000 normal school graduates teaching in the 13,800 county schools other than one-teacher schools.

When one considers that the number of one-teacher rural schools constitutes nearly one-half of the entire number of teachers under county supervision, a striking contrast

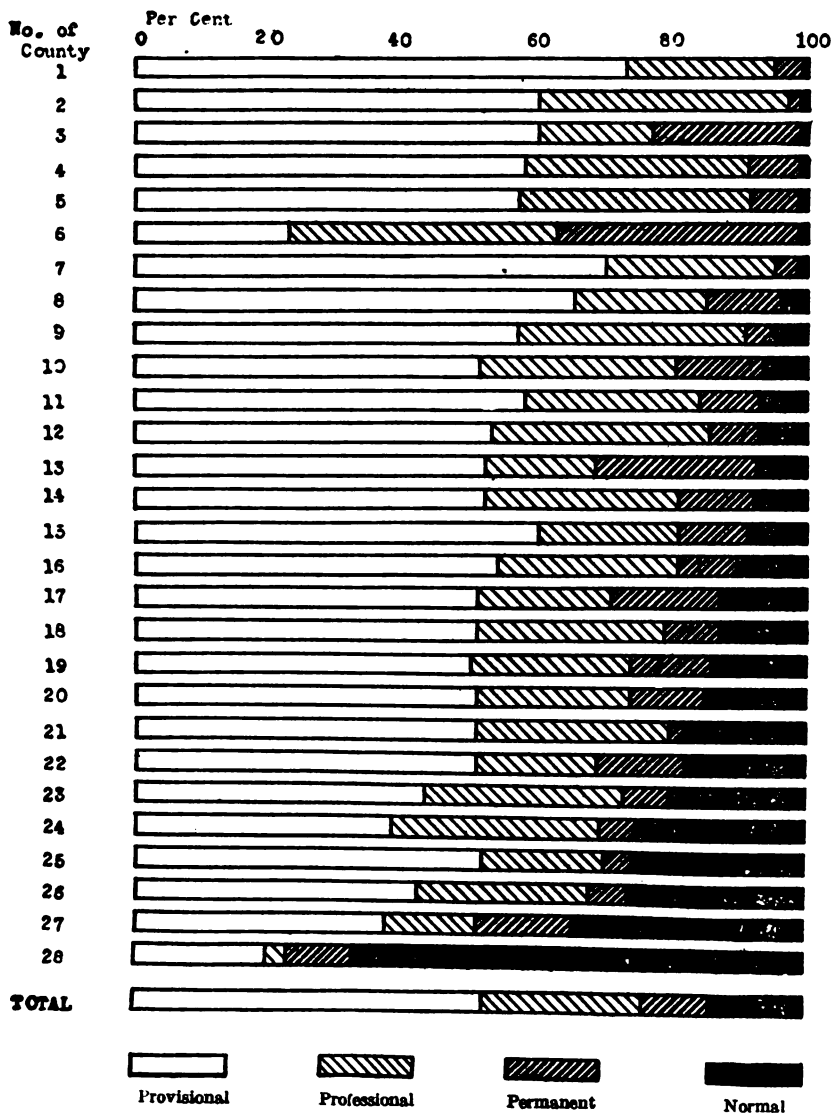


DIAGRAM 3.—Percentage of teachers holding different kinds of certificates in elementary one-teacher rural schools in 28 counties of the State.

is found between this one-teacher group, with only 14 per cent normal school graduates, and the two and more than two teacher group, with approximately 44 per cent of the teachers with normal school training. This demonstrates a most inequitable distribution of normal school trained teachers among the schools under county super-

<sup>3</sup> Rep. State Supt. Pub. Instruction, 1918, pp. 610-11.

vision. It would seem that if a more equitable distribution of trained teachers were established throughout the counties, greater impetus would be given toward solving the problem of raising the standard of the one-teacher rural schools in the State.

Again, it is equally striking that 52 per cent of the teachers in one-teacher schools in the 28 counties considered hold provisional certificates, which when interpreted for the entire State means that approximately 5,200 teachers in the one-teacher rural schools hold this certificate. In the report above referred to, issued by the State department of public instruction, it will be found that 7,033 teachers out of the 23,800 under county supervision held provisional certificates in 1918. Consequently the remaining 1,800 certificates must be held by approximately 13 per cent of the 13,800 teachers in schools other than one-teacher school under county supervision. This second comparison of the percentage holding provisional certificates between the two groups of teachers emphasizes just as strongly as in the case of the normal school graduates the very unfortunate inequitable distribution of teachers holding different types of certificates.

#### CERTIFICATES HELD BY TEACHERS IN SCHOOLS OF TWO AND MORE THAN TWO TEACHERS.

It may be seen at a glance, in Division B of Tables 32 and 33, from the number and kinds of certificates, that a larger proportion of the teachers in this class of schools are better trained than those in the one-teacher schools. For example, 293 out of the 914 teachers hold provisional certificates, which is only 32 per cent of the whole number, as compared with 52 per cent in the one-teacher schools. On the other hand, 25 per cent hold normal-school certificates and diplomas as compared with 14 per cent in the one-teacher group. The number of teachers holding professional and permanent certificates is also proportionately higher than in the one-teacher schools, although the difference is not so marked. The main fact in all of this is that the percentage of teachers holding higher certificates, thus indicating better preparation and training, is appreciably higher among the teachers in schools of two and more than two teachers than in the case of the teachers in the one-teacher schools in the same counties.

#### CERTIFICATES HELD BY TEACHERS IN BOROUGH ELEMENTARY SCHOOLS.

Since the writer had the information giving the kind of certificates held by the teachers in the borough elementary schools under supervision of the county superintendents in the same counties, it was found interesting to see how the certification of these teachers compares with that in the township schools previously discussed. The number of teachers holding professional and permanent certificates is practically the same as in the case of the one-teacher schools and of the schools of two and more than two teachers in townships, namely, 21 per cent professional and 15 per cent permanent. It was also found, as might be expected, that the per cent of normal school graduates teaching in boroughs is 58 per cent, or 44 per cent higher than that in the one-teacher schools, while conversely the per cent of provisional certificate teachers in the boroughs is only 6 per cent, or 46 per cent lower than that in the one-teacher schools.

These facts emphasize all the more strongly the unequal distribution of kinds of certificates among county teachers, implying unequal academic and professional preparation in the different types of schools under county supervision. They help to substantiate the evidence found elsewhere in this study that teachers with the higher grades of certificates either migrate voluntarily to the village schools of two and more than two teachers and the borough schools, or are frequently transferred arbitrarily by school boards to the first type of schools just named in the same townships. These vacancies thus caused in the one-teacher schools are, as the facts indicate,

usually filled by teachers holding provisional certificates. The fact is already established that the ungraded one-teacher rural school is usually taught by one with inadequate academic preparation and practically no professional training or teaching experience.

In Chapter II were presented the facts relating to the limiting conditions affecting the work of the rural teachers in one-teacher schools. Clearly they were of the most disadvantageous type. Naturally teachers avoid these schools if possible, and those in charge apparently are not willing to pay more to secure teachers for these more difficult positions. Hence our rural schools are being filled with the least competent among the entire teaching force.

#### ANALYSIS OF THE PRACTICE OF CERTIFICATION BY COUNTIES.

Turning now to the individual counties, it will be observed in Table 32, Division A, that the variation is most pronounced both among the kinds of certificates held by

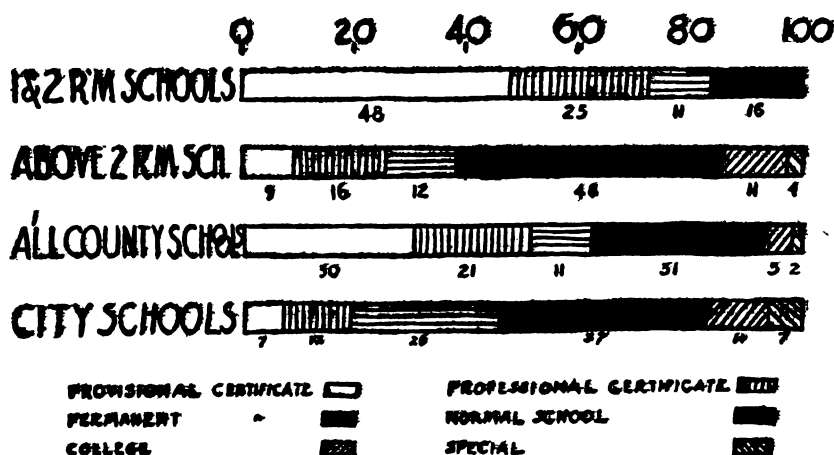


DIAGRAM 4.—Percentage of teachers holding various kinds of certificates in different types of schools in Pennsylvania.

the teachers of the same county and also among the separate counties. For example, in counties 1, 7, and 11 there are practically the same number of one-teacher schools, averaging 218 under county supervision. However, county 1 has 142 teachers holding provisional certificates, county 7 has 113, and county 11 has 41. At the same time county 1 has 9 normal-school graduates, county 7 has 56, and county 11 has 147. In the case of the professional certificates, county 11 has only 4 teachers holding this class of certificate, while counties 1 and 7 have 41 and 49, respectively.

Another very interesting comparison can be made among counties 6, 8, and 15, having approximately 170 one-teacher schools in the open country. County 6 has 45 teachers holding normal-school certificates or diplomas, while counties 8 and 15 show the astonishing record of having only 1 and 2 normal-school graduates respectively. In contrast with these figures, county 6 has 73 teachers with provisional certificates, while counties 8 and 15 with practically no normal school trained teachers, as was just pointed out, have 131 and 93 provisional certificate teachers, respectively.

Counties 17 and 28 each with over 300 one-teacher schools—the largest number of one-teacher schools among all the counties in the State—do not differ greatly in the number of teachers holding provisional and professional certificates. However, in the case of the normal-school certificates and diplomas, the former county has 67, while the latter has only 26, meaning that the first county has approximately three times as

many normal-school trained teachers as the second. The number of permanent certificates held by the teachers in these two counties also varies considerably, in that county 28, with 80, has nearly twice as many as county 17, with 45. Table 33 also gives the percentages of each kind of certificates by counties. In examining the fourth column of Division A, which gives the per cent of teachers holding normal-school certificates and diplomas in one-teacher schools, it can be seen that the range in per cent extends from 0.5 to 68 per cent, or expressed in numbers (Table 32) the range would be from 1 normal school graduate in one county to 147 in another county. However, the percentage of teachers holding normal-school certificates and diplomas in the 14 counties representing the middle 50 per cent of the group range from 1.6 to 18, with a quartile deviation of 8.2 per cent, indicative of a wide variation of per cent in the total distribution. These figures are really quite alarming when it is considered that 7 of these 28 counties have less than 2 per cent normal-school graduates teaching in the one-teacher rural schools.

In the case of the provisional certificates, the per cents range from 19 to 73; the middle 50 per cent of the counties extend from 50 to 57 per cent, indicating a quartile deviation of 5.3 per cent, an unusually close grouping about the median, 52 per cent, thus showing less variation in the total distribution than that representing normal-school certificates and diplomas.

There are also differences apparent in the separate counties in regard to the professional and permanent certificates; the former having a range from 1 to 40 per cent, and the latter from 1.9 to 36 per cent. The permanent certificates have the shortest range and the lowest variation in per cents among the four classes of certificates in the various counties.

The group of 26 counties for which we have data on the type of certificates held by the teachers in the schools of two and more than two teachers, according to Division B of Table 33, shows practically as great variation in the different types of certificates among the different counties as that in the case of the one-teacher schools. While the percentage of teachers holding normal school certificates and diplomas, as we have mentioned before in this discussion is 25, or 11 per cent higher than that in the one-teacher school group, yet the range is nearly the same, extending from 0 to 60 per cent. One-half of the difference between the per cent at the first quartile point and that at the third quartile point is 8 per cent, indicating practically the same kind of distribution as in the case of the normal certificates and diplomas in the one-teacher schools, although maintaining the higher level, as expressed in the median and quartile points, at all points on the scale. The median per cent in the case of the provisional certificates is 30, a decrease of 22 points from the median per cent of provisional certificates in the one-teacher schools; and the quartile deviation, which is 8 per cent, also shows a much greater variation in the different counties.

These unusually wide variations in number and per cent of the four kinds of certificates held by the teachers in one-teacher schools of 28 counties of the State this current school year, 1919-20, might be attributed to a number of varying causes. Naturally one of the first questions that might be asked is, which of these counties has one of the 13 State normal schools located within its boundaries or in an adjoining county? County 11 has 68 per cent of its teaching force in the one-teacher schools, normal school graduates, and at the same time has one of the largest normal schools in the State. County 13, with the second highest per cent of normal school graduates, namely, 34.2 is also a normal school county. On the other hand, county 17 has a normal school in its midst, but only 18 per cent of the teachers in one-teacher schools are normal school graduates. While there can not be any question that a normal school located in a particular county makes for a larger number of normal school graduates available for the schools of that county, if for no other reason than the fact that practically every normal school in the State shows by its catalogue that the largest number of students from any one county are residents of the home county, yet the third county

above referred to would certainly give us adequate reason to believe that simply the normal school's location in the county is not the exclusively controlling factor to which should be attributed the high percentage of normal school graduates teaching in a normal school county.

Four of the counties listed in Tables 32 and 33 adjoining normal school counties are 6, 14, 18, and 28, in which there are 26, 7, 5.5, and 7.6 per cent of normal school graduates teaching in the one-teacher schools, a variation which makes it difficult to determine just how far the proximity of a normal school in an adjoining county is a constant factor. On the other hand, counties 5, 7, and 22 do not have a normal school within their boundaries and are not in close proximity to counties having normal schools, but they have the high percentages of 25, 25.6, and 20 per cent normal school graduates in the one-teacher schools, respectively. It is evident that these three counties, at least, are typical of a class on which other influences apart from the location of a State normal school are important factors.

It was found that the counties having the largest number of normal school graduates as a rule have a large proportion of school districts with eight and nine months' school terms, with commensurately higher salaries, caused by the longer term. It would seem that, at least in some counties, the length of school term is another factor in explaining the higher percentage of normal school certificates and diplomas. On the other hand, as will be shown in the chapter on salaries, the very marked tendency on the part of many school districts in some of the counties for paying the lowest minimum salary required by law has a tremendous bearing in accounting for the kind of certificate held by the teachers in such districts. Many school boards hire the teacher with the lowest type of certificate, requiring thereby the lowest minimum salary, in order to keep the teachers' salaries for their particular district as low as possible.

While conditions as previously stated are unquestionably responsible in part for the tremendous variations in number and kinds of certificates frequently found between adjoining counties, nevertheless there is undoubtedly another very important factor, extremely difficult to measure, namely, the influence of the educational leadership in the different counties. While we have no direct evidence to substantiate this point of view, yet by weighing the facts already set forth we believe that we are reasonably safe in saying that the leadership in some of the counties has a tremendous bearing in maintaining high educational standards in regard to certificates, particularly in those counties where educational leadership wields a potent influence with members of the school boards of the different school districts.

#### CERTIFICATES OVER A THREE-YEAR PERIOD.

Since the data thus far presented on certificates give us information concerning the number and kinds of certificates held by the teachers for the current school year 1919-20, it might be well to see how the certificate situation varies over a period of years. In the accompanying Table 34 will be found the number and kinds of certificates held by the teachers in the one-teacher schools as indicated by the county superintendents in their teachers' directories in five typical counties from different parts of the State for the school years 1917-18, 1918-19, and 1919-20, respectively. At a glance it will be seen that there is a marked variation in some of these counties over the three-year period, especially in the case of the provisional certificates and of the normal school certificates and diplomas. This is probably of all the more interest since during the year 1917 and part of 1918 we were in the World War, causing certain social and economic conditions which in education resulted in a tremendous scarcity of teachers throughout the whole country. Its effect in 1919 would probably be felt all the stronger in the one-teacher schools in the rural districts, in view of the facts and conditions revealed throughout this study.

TABLE 34.—*Distribution of certificates over a period of three years, 1917, 1918, and 1919, in one-teacher schools in five typical counties.*

Counties.	Provisional, in year—			Professional, in year—			Permanent, in year—			Normal certificate and diplomas, in year—			Total, in year—		
	1917	1918	1919	1917	1918	1919	1917	1918	1919	1917	1918	1919	1917	1918	1919
No. of county:															
1.....	87	92	66	71	59	58	8	12	10	49	30	42	215	190	176
2.....	47	61	73	46	47	44	14	12	11	65	58	45	172	173	173
3.....	44	50	55	24	22	21	21	22	22	60	55	51	149	149	149
4.....	149	176	183	74	64	64	48	47	46	95	75	67	366	362	359
5.....	56	62	59	33	25	25	16	19	19	20	16	17	125	122	120

While differences in the three years are scarcely pronounced enough to support marked conclusions, the several noticeable tendencies should probably be given consideration. In the first place the number of provisional certificates is larger in 1919 than in 1917 in four of the five counties, as shown in the table. It will be readily observed that in county 1 the number of provisional certificates is less in 1919 than in 1917, but by observing the totals at the end of the table it will also be seen that this county has 39 less one-teacher schools in 1919 than in 1917—incidentally the only county in the group that shows a marked falling off of the one-teacher schools over this period of three years—indicating that the proportion of provisional certificates in this county is also practically the same.

In the case of the professional certificates the number in each one of the five counties is less in 1919 than in the previous years. The number of permanent certificates in counties 1, 3, and 5 shows a slight increase in the third year over the first. The most striking information furnished through the statistics is found in the group of teachers holding normal school certificates and diplomas, where in each of the five counties the number is less in 1919 than in 1917. This difference ranges from 3 in county 5 to 28 in county 4, which fact is all the more surprising since the latter county is the one county among the group that has a normal school located within its boundaries.

#### TEACHERS' CERTIFICATES IN RELATION TO EXPERIENCE.

It will be recalled that one of the main requisites for teachers to qualify for a certificate in Pennsylvania higher than the provisional or first grade certificate is the number of years of experience. In order to see how this works out in practice, the data which the teachers gave through the questionnaires concerning their experience and the type of certificates are arranged in Table 35. The median years of experience for the four kinds of certificates as listed in the above-mentioned table range from 0.9, in the case of the teachers holding provisional certificates, to 15.9, in the case of those holding permanent certificates. Teachers with professional certificates and normal school certificates or diplomas reported practically the same amount of experience, namely, 4.9, and 4.5, respectively.

The very low experience of the teachers holding provisional certificates can readily be explained from the fact that 294 out of the 685 teachers reporting were new teachers without any previous experience. It is also of interest to note that approximately 85 per cent of the group with provisional certificates had less than 2 years' teaching experience. The five-year limit that the new school code has placed on this certificate for possible yearly renewal by examination would automatically tend to keep down the years of experience.<sup>3</sup>

<sup>3</sup> Pa. Sch. Laws, and app., 1919, Art. XIII, sec. 1302.

TABLE 35.—*Distribution of certificates on basis of years of experience.*

Certificates.	Years of experience.																			Total.	Per cent.	Median years of experience.
	0	1	2	3	4	5	6	7	8	9	10-14	15-19	20-24	25-29	30-34	35-39	40-49	50 or over.				
Provisional.....	204	86	181	66	28	6	8	1	3	...	6	2	...	...	2	...	...	...	685	47	0.9	
Professional.....	...	...	21	36	55	41	48	27	14	14	41	11	3	1	3	...	2	...	315	22	4.9	
Permanent.....	...	...	...	...	7	8	9	8	6	9	43	29	16	14	18	11	5	6	194	13	15.9	
Normal certificate or diploma.....	50	29	25	10	24	7	13	7	8	9	26	20	15	3	4	4	...	...	254	18	4.5	
Total.....	344	115	227	114	112	62	78	43	31	32	121	62	34	18	27	15	7	6	1,448	100	3.3	

Since the school laws of Pennsylvania require teachers to have 2 years of successful experience before they can qualify for the professional certificate, the years of experience in this group must necessarily be considerably higher than for those holding provisional certificates. Furthermore, a professional certificate can be renewed three times for a period of three years each.<sup>4</sup> It would seem that under these circumstances the median years, 4.9, for the group holding professional certificates is low, meaning that 50 per cent out of the 315 teachers reporting have had an experience anywhere from 2 years to approximately 5 years. Again, over 70 per cent of the group had 7 or fewer years of experience. These facts would indicate that the 12 years' limitation placed upon the certificate would seem to cause many of these teachers to qualify for the permanent certificate and normal-school certificate or diploma.

The group of teachers holding normal-school diplomas or certificates shows by far the widest distribution of years of experience. The middle 50 per cent of the teachers reported teaching experience extending from 1.5 to 12.6 years, indicating that the upper 25 per cent range in experience approximately from 12.6 to 40 years. Since the average teaching life of a normal-school graduate from the Pennsylvania State normal schools is estimated at 3½ years,<sup>5</sup> it is safe to conclude that the experience of the teachers holding normal-school certificates or diplomas in the one-teacher schools is probably high in comparison with the group of teachers in all types of schools holding normal-school diplomas. In spite of the fact that there is a general tendency for normal-school graduates to try to secure teaching positions in urban communities just as soon as possible after having had a year or two of experience in the rural schools, the bimodal distribution of the teachers holding normal-school diplomas, indicated by 54 per cent having 4 years or less experience and 30 per cent having 10 or more years of experience, would help to bear out the conclusion that normal-school graduates either remain in the one-teacher rural schools for a very limited number of years or continue for an indefinite length of time in this type of school.

#### CERTIFICATES AND AGE OF TEACHERS.

In the light of the previous discussion concerning the experience of teachers, it might be expected that a somewhat similar relationship exists between the ages of teachers and the kinds of certificates held by this same group of teachers. In Table 36 the median ages range from 20.3 for the teachers holding provisional certificates to 37.3 for those holding a permanent certificate. It will be noticed, too, that in the group holding permanent certificates, 50 per cent of the 194 teachers reporting range from 37 to 60 years or more in age. These facts are especially significant when one considers the very limited amount of academic preparation and professional training that this group of teachers possess.

<sup>4</sup> Pa. Sch. Laws and App., 1919, Art. XIII, sec. 1304, 1306.

<sup>5</sup> Phillips, Geo. M. An. Rept. for Normal Schools.



TABLE 36.—*Distribution of certificates on basis of age of teachers.*

Certificate.	Ages of teachers.																Total.	Per cent.	Median ages.
	18	19	20	21	22	23	24-25	26-27	28-29	30-34	35-39	40-44	45-49	50-54	55-59	60 or over.			
Provisional.....	149	154	128	87	49	30	30	14	8	22	3	5	4	...	.....	2	683	47	20.3
Professional.....	...	...	22	29	31	48	64	30	27	23	24	7	1	4	1	2	313	22	24.8
Permanent.....	...	...	...	...	3	9	10	11	13	41	22	20	26	12	16	11	194	13	37.3
Normal certificate or diploma.....	5	26	37	31	18	12	25	16	12	19	13	15	15	6	4	1	255	18	23.9
Total.....	154	180	187	147	101	99	129	71	60	105	62	47	46	22	21	14	1,445	100	23.0

### ACADEMIC PREPARATION AND PROFESSIONAL TRAINING AS RELATED TO CERTIFICATION.

In Table 37 the number and per cent of teachers having had secondary education are distributed according to the kind of certificates held by the teachers respectively. It will be seen in Division B that the 61 per cent of the teachers reporting as having had secondary education are distributed as follows: Seven per cent, less than 1 year; 4 per cent, 1 year; 11 per cent, 2 years; 17 per cent, 3 years; and 22 per cent completing a four-year high-school course. As their education was considered at length in the preceding chapter, it is the purpose in this discussion to analyze the secondary education as reported by the teachers on the basis of the kinds of certificates held.

TABLE 37.—*Distribution of teachers by certificates on basis of their secondary education.*

#### DIVISION A.—DISTRIBUTION BY YEARS.

Certificate.	Teachers reporting.	Without secondary education.	With secondary education.	Years of secondary education.				
				Less than one year.	One year.	Two years.	Three years.	Four years.
Provisional.....	678	187	491	43	17	74	139	213
Professional.....	308	121	187	28	12	41	48	58
Permanent.....	190	114	76	23	15	10	17	11
Normal certificate or diploma.....	264	144	120	4	13	32	43	28
Total.....	1,440	566	874	98	57	157	247	315

#### DIVISION B.—DISTRIBUTION IN PER CENTS.

Certificate.	Per cent of teachers reporting.	Per cent without secondary education.	Per cent with secondary education.	Secondary education in per cents.				
				Less than one year.	One year.	Two years.	Three years.	Four years.
Provisional.....	45	28	72	6	3	11	20	33
Professional.....	25	40	60	9	4	13	15	19
Permanent.....	12	60	40	12	8	5	9	6
Normal certificate or diploma.....	18	55	45	2	5	12	16	10
Total per cent..	100	39	61	7	4	11	17	22

Among those reporting four years of secondary education, the largest group, or 32 per cent, hold provisional certificates; the second largest group, or 19 per cent, professional certificates; and the smallest group, or 6 per cent, are teachers under permanent certificates. In the case of the teachers having had three years of secondary education, the largest proportion, or 20 per cent, are again found among the provisional-certificate class, while the second largest proportion hold normal-school certificates or diplomas. An interesting fact, however, is that the largest per cent of teachers reporting one year or less, respectively, hold permanent certificates.

In considering these teachers further from the viewpoint of the different types of certificates held and of the proportion without secondary education, it is a rather striking fact that the largest group is found to be those holding permanent certificates, the second largest those with normal-school certificates or diplomas, and the smallest those holding provisional certificates. Of course, it will be maintained that these conclusions should naturally be expected, since teachers holding permanent certificates and normal-school diplomas and certificates are, as a rule, older and have had longer experience, but probably have not had the same opportunity to attend high schools as have the teachers holding provisional certificates and possibly those holding professional certificates, but having fewer years of experience. As a matter of fact, according to the classification of certificates as defined by the State law, the emphasis is placed predominantly upon experience as a requirement for those who wish to obtain the professional and permanent certificates; and thus on account of an examination system of certification not requiring as a prerequisite any definite amount of academic or professional training in a secondary school, normal school, or college, frequently only slight consideration is given to such training. From the data presented it appears that a tremendous argument would be set forth for an immediate revision of the . . . examination route . . . certificate system, since approximately 75 per cent of the 10,038 teachers in one-teacher schools hold certificates issued by 66 different county superintendents with the same possible number of county standards, in favor of one that will give greater credit for actual academic and professional education obtained in accredited schools.

#### CERTIFICATES OF TEACHERS FROM STANDPOINT OF SUPPLEMENTARY TRAINING DURING SERVICE.

Since the facts presented in the preceding chapter on the educational preparation of these teachers showed that only 5 per cent of the teachers holding provisional, professional, and permanent certificates had attended a normal school in preparation for teaching, apart from those who graduated from one of the Pennsylvania State normal schools, it was found that this small group was fairly equally distributed among those holding the three types of certificates above named. Consequently we shall restrict ourselves in this discussion to the supplementary academic and professional training of rural teachers received during service. By studying the data as shown in Tables 38 and 39, it is evident that only 38 per cent of the number of teachers reporting had received supplementary training during service. These are distributed as follows: Eight per cent in summer academies, 10 per cent in summer local or county normal schools, 12 per cent in summer State normal schools, 6 per cent in summer college courses for teachers, and 2 per cent by correspondence courses and miscellaneous ways.

TABLE 38.—*Distribution of teachers in one-teacher schools, by certificate, on the basis of their supplementary academic and professional training during service.*

Certificate held.	Number reporting.	Receiving training no training during service.	Receiving training during service.	Summer academy—						Summer local or county normal school—						Summer State normal school—						Summer college—						Correspondence and miscellaneous.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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The two factors determining the supplementary training of teachers, as pointed out in the preceding chapter on education, are again present. The second factor, namely, the accessibility of schools, is probably more clearly shown in the previous chapter in the column for the typical counties following the total distribution (Table 29); but the first factor, the kind of certificate held by the teacher, stands out more clearly in Tables 38 and 39, where the training in service can be analyzed for each group of teachers holding the different types of certificates.

TABLE 39.—*Distribution of teachers in one-teacher schools on the basis of teaching experience—Total distribution for 18 counties, followed by 8 typical counties.*

Years of experience.	Total distribution in 18 counties.		Counties.							
	Number.	Per cent.	1	2	3	4	5	6	7	8
0.....	334	24	16	12	14	10	20	11	13	20
1.....	120	8	3	2	6	5	5	5	4	7
2.....	199	14	7	6	12	9	3	15	11	22
3.....	104	7	1	4	7	3	5	5	7	6
4.....	112	8	5	1	11	.....	8	11	6	3
5.....	72	5	2	2	7	1	5	3	1	5
6.....	78	6	1	.....	10	.....	5	2	4	8
7.....	46	3	.....	3	2	.....	1	3	3	3
8.....	31	2	2	.....	.....	.....	1	1	.....	4
9.....	35	2	3	.....	2	.....	1	1	.....	6
10-11.....	52	4	.....	5	15	1	1	5	1	8
12-14.....	74	5	3	1	10	3	1	8	2	9
15-19.....	62	4	2	3	5	.....	3	8	1	6
20-24.....	34	2	1	.....	1	1	4	2	.....	3
25-29.....	30	2	1	.....	1	.....	3	.....	.....	1
30-34.....	27	2	3	1	2	.....	3	2	.....	1
35-39.....	18	1	.....	.....	1	1	1	.....	.....	2
40-49.....	12	1	.....	.....	1	.....	.....	.....	.....	.....
50 or over.....	5	.....	.....	1	.....	.....	.....	2	.....	.....
Total.....	1,445	100	50	41	111	34	78	84	54	114
Median years of experience.....	3.7	.....	2.9	3.2	5.9	2.2	4.6	4.5	2.9	4.6

The teachers holding normal-school certificates or diplomas have had little training during service, and those among this group who thus reported usually attended a summer college course or obtained additional training in a summer State normal school. In the case of the teachers holding provisional, professional, and permanent certificates, supplementary training is a most vital factor in aiding them to secure the next highest type of certificate, according to the principles followed in the Pennsylvania examination system for securing certificates. It is of interest to note that 18 per cent of these reported such supplementary training in summer academies or local county normal schools. The largest per cent of teachers holding professional certificates attended summer academies and local county normal schools, which is evidence that these teachers elected the schools which were not only most accessible, but which also best afforded them the academic preparation in the subjects listed for the particular certificate for which they were applicants. As the accessibility of schools is so clearly demonstrated in the eight typical counties in the previous chapter, it does not seem necessary to present these counties on the basis of certificates a second time. It is, however, fortunate that such conditions exist, since it probably helps to increase the number of teachers who will avail themselves of additional training in service.

It might not be out of place here to give a bit of the writer's experience in which the opportunity was afforded to interview a number of rural teachers holding provisional, professional, and permanent certificates in Pennsylvania while helping to prepare the schedule of courses of those who attended one of the summer 6-weeks' college courses in the State. In selecting their courses these teachers invariably chose such branches of study as were needed for additional subjects on certificates

in order to qualify them for the next highest certificate. They invariably selected academic subjects—frequently a review of such studies as algebra, general history, and Latin—rather than courses either academic or professional, of more immediate use to their professional work. This was particularly unfortunate, as this college specialized in courses in rural sociology, home economics, and agricultural subjects, affording for teachers coming from rural schools an unusual opportunity to enrich their knowledge and experience in a field of work so greatly needed in rural communities.

From the data presented both in this and in the preceding chapter it seems opportune to emphasize again the great necessity for the changing of the certificate laws so that a greater premium will be put on both academic and professional training in accredited schools. But to do this, additional schools must be provided, especially in the 53 counties that do not have a State normal school to assist in training, both academically and professionally, the large number of new teachers needed each year in the rural schools.

## Chapter VI.

### EXPERIENCE AND TENURE.

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The number of years that teachers in the one-teacher schools remain in service in the rural districts in Pennsylvania varies greatly. In Table 39<sup>1</sup> it will be seen that the experience ranges all the way from the "beginners," or new teachers without any experience, to teachers claiming 55 years of teaching service. The median years of experience of the entire group of 1,445 teachers replying to the questionnaire is 3.7. This teaching service was generally performed in the rural districts, as only 90 teachers, or approximately 6.5 per cent of all the teachers constituting the study, reported having taught previously in borough or city schools. As this group comprises both men and women, it might be of interest to call the reader's attention to Tables 50 and 51 in the discussion on teachers' salaries,<sup>2</sup> where the median years of experience for men is 7 and for women is 3.2, thus showing that there is a tendency for men, although fewer in number, to remain in the service longer than women. It should be remembered, however, that the average years of experience are kept down because of the fact that 334 teachers, or 23 per cent, are teaching for the first year, without any previous experience. By deducting this number from the entire group, the median for the remaining teachers with previous teaching experience is 5.3 years. According to the data in the table, 319, or 22 per cent, had only 1 and 2 years of experience; 216, or 15 per cent, 3 and 4 years of experience; and 262 teachers, or 18 per cent, reported that they had taught for a period of years ranging from 5 to 10 years. The most striking fact is that 314 or, 22 per cent, reported that they had taught in rural districts for 10 or more years.

In the 8 typical counties listed in Table 39, the range of experience varies considerably, as indicated by a median of 2.2 in county 4 and 5.9 in county 3. Comparing these counties from the point of view of the prevailing type of certificates in counties 4, 1, and 7, in which the teachers average low in years of experience, the larger proportion hold provisional and professional certificates; while in county 3, in which the teachers rank high in years of experience, the larger proportion hold permanent and normal-school certificates and diplomas. In this connection it should be recalled from the previous chapter (Table 35) that teachers holding provisional certificates have 0.9 years of experience; those holding professional, 4.9; permanent, 15.9; and those having normal-school certificates and diplomas, 4.5.<sup>3</sup>

Experience, however, as discussed in this chapter, implies very little supervision. This can be clearly inferred from the large number of one-teacher schools in many of the counties with the supervision of only 1, 2, and possibly 3 superintendents, and again from the very little time that these superintendents can spend in the rural schools as reported by the teachers themselves in Chapter III. The median, 3.7 years for teachers with experience in one-teacher rural schools, ranks considerably higher in Pennsylvania than in certain other States for which we have data. For example, the median number of terms taught by all teachers in rural schools of Nebraska is 1.85.<sup>4</sup> For the entire State of Colorado in 1917 the teachers averaged 3

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<sup>1</sup> See p. 5.

<sup>2</sup> See p. 73.

<sup>3</sup> See p. 47.

<sup>4</sup> Rural Teachers of Nebraska, U. S. Bu. of Ed., Bul., 1919, No. 20, p. 40.

years of experience.<sup>5</sup> An analysis of reports from the State of North Dakota showed in 1916 an average length of service for rural teachers of 2 years.<sup>6</sup> The average teaching life of rural teachers in 1918 in South Dakota was 3.76.<sup>7</sup> The recent Virginia survey shows that in 1918-19, the median number of years of experience for white teachers was 1.4.<sup>8</sup> The average experience of the teachers in one-teacher schools in New York State in 1919 was 6.7 years, a considerably higher average than that of Pennsylvania.<sup>9</sup> Experience for the rural teachers for the United States as a whole is slightly over three years.<sup>10</sup>

#### STABILITY OF THE TEACHING FORCE.

Table 40 shows the number of different schools in which the teachers represented in Table 39 who have had one or more years of experience have taught. The median number of schools taught by the 1,050 teachers reporting is 3. The total distribution shows that 530, or slightly more than one-half the whole number, have taught in 3 or more schools; 234 teachers, or 22 per cent, taught in from 5 to 12 different schools; and 24, or slightly over 2 per cent, of the teachers claim that they have held positions in 12 to 20 different schools. This variation, shown for the group as a whole, is also evident in the 8 typical counties, in which the median number of schools taught ranges from 2.4 to 3.7, respectively. These facts seem to show a most perplexing situation, both for superintendents and teachers in that the tenure of such a high percentage of teachers is so uncertain.

TABLE 40.—*Distribution of teachers on basis of number of different schools taught for 18 counties, followed by 8 typical counties.*

Places taught.	Total distribution in 18 counties.		Counties.							
	Number.	Per cent.	1	2	3	4	5	6	7	8
1.....	230	22	6	12	19	9	7	8	10	19
2.....	290	28	9	14	22	27	14	10	14	24
3.....	153	15	3	7	23	6	14	4	7	12
4.....	119	12	3	4	8	7	6	3	6	12
5.....	83	8	6	1	4	7	6	3	1	7
6.....	60	6	2		4	3	4	3	1	8
7.....	31	3	3	1		2	1			6
8.....	29	3			5	6			1	2
9.....	13	1	1		1	1	2	3		1
10-11.....	18	1		1	3	1	2			3
12-13.....	12	1	1			1	2			1
14-15.....	5					2	1			1
16-17.....	3							1		1
18-19.....	2						1			1
20.....	2									1
Total.....	1,050	100	34	40	89	72	62	35	40	99
Median number of places.....	3.0		3.6	2.4	3.2	3.0	3.7	3.0	2.7	3.6

The relationship between the number of years of experience and the number of different schools taught can probably be more clearly analyzed by studying the following Table 41. The instability, and in many instances uncertain tenure, can be very plainly shown by observing the group of 64 teachers with five years' teaching experience, of whom 28 have taught in 1 school, 18 in 2 schools, 24 in 3 schools, 11 in 4 schools, and 3 in 5 different schools. Among those having had 10 years' experience,

<sup>5</sup> The Administration and Support of the Colo. Sch. System, U. S. Bu. of Ed., Bul., 1917, No. 5, p. 74.

<sup>6</sup> Monahan, A. C., and Cook, K. M., Survey of Wyoming, U. S. Bu. of Ed., Bul., 1916, No. 29, p. 52.

<sup>7</sup> Educ. System of S. Dak. U. S. Bu. of Educ. Bul., 1918, No. 31, p. 210.

<sup>8</sup> Va. Pub. Sch. Survey, pp. 136 and 333.

<sup>9</sup> Engelhardt. The Teaching Profession in the State of New York.

<sup>10</sup> The Administration and Support of the Colo. Sch. System. Bu. of Educ. Bul., 1917.

it will be seen that only 2 have taught in 1 school, 5 in 2 schools, 5 in 3, 8 in 4, 3 in 5, 2 in 6, and 1 in 7, 8, and 9 different schools.

The median number of schools taught for the entire group is 3, and the median years of experience is 7.5. This higher median is accounted for by the fact that this group does not include the large proportion of teachers without any previous experience. By drawing lines through these medians, 7.5 and 3, it will be observed that a very large majority of the cases are found in the quadrant 1 to 6 years of experience and 1 to 3 schools taught, and likewise 6 to 40 or more years of experience and 3 to 20 different schools taught, also indicating that the number of places taught by these teachers increases in direct proportion to the number of years of experience. The coefficient of correlation for the entire group was found to be very high,  $r=.79$  P.E.= $\pm .0078$ . (Pearson's Product-Moment Method.)

TABLE 41.—Relation of number of years of experience to number of different schools taught.

Experience.	Different schools taught.																			Total.
	1	2	3	4	5	6	7	8	9	10-11	12-13	14-15	16-17	18-19	20					
1.....	100																		100	
2.....	82	102																	184	
3.....	31	37	25																93	
4.....	16	50	25	8															99	
5.....	28	18	24	11	3														64	
6.....	8	17	18	10	8	1													62	
7.....	8	8	11	14	6		1												48	
8.....		9	10	12	6	1													38	
9.....		7	6	8	7	1	1		1										31	
10.....		2	5	5	8	3	2	1	1	1									28	
11.....			6	5	3	5	1	1	1										22	
12-14.....			10	10	13	13	8	8	4	1	1								68	
15-17.....			2	9	8	10	4	6	5	2	1								47	
18-20.....			2	4	5	5	5	4	3	2	4	1							35	
21-23.....				1	6	6	1	1	1	2	3	1	1						23	
24-26.....					2	1	5		5	2	5	3							23	
27-29.....				2	4	3	1	1	3	3				2					19	
30-31.....				1	2	7	2	2	5	5	5	3	1	1	1			2	36	
35-39.....				2	4	1		3	1		1	1	1	2					16	
40 or above.....				1	2	2			2	1	1	2	1	1	1				14	
Total.....	275	273	159	120	66	32	29	31	20	21	11	4	6	1	2				1,050	

$r=.79$  P.E.= $\pm .0078$ .

This unusual instability of the teaching force among the rural teachers can probably be accounted for largely by the practice of many school boards in school districts in rural communities transferring teachers freely from one school to another. Several county superintendents consulted on this point said that some school boards in their counties believe that a teacher should be transferred at least at the end of two years, and that by so doing not only will the efficiency of the teacher be increased, but the school will be greatly benefited by securing the "new" teacher. Then, again, the size of the school and the difficulty in management as viewed by the directors are factors which influence the transferring of teachers. It might be pointed out that Table 43 in this same chapter shows that 37 per cent of the teachers in the one-teacher schools during this current year 1919-20, are experienced but are teaching in new positions, which data evidence all the more strongly the practices indicated throughout this discussion.

#### STABILITY OF TEACHING FORCE OVER A THREE-YEAR PERIOD.

The very great difficulty that superintendents experience in administering their schools from the standpoint of the instability of the teaching force is again well exemplified in Table 42. These data were obtained from the directories covering a period



of three years, issued by the county superintendents for the school years 1917, 1918, and 1919 from six different counties, typical of all sections of the State. In tracing a one-teacher school for a period of three years it was found (Division B) that only 15 per cent of the teachers in the one-teacher schools taught the same school during this length of time. Forty-four per cent of these schools had one teacher for two years and one teacher for one year. The astonishing fact revealed by the data is that 41 per cent of the one-teacher schools in these six counties, including every school, were taught by three different teachers during this period of three years.

The second part of this table gives the information concerning the two-teacher schools of the same counties. While a similar tendency seems to exist in these schools, we are glad to know that 31 per cent of these schools have had one teacher for a period of three years, and that only 26 per cent have been taught by three different teachers.

TABLE 42.—*Number of different teachers in one-teacher schools and two-teacher schools, over a period of three years, 1917, 1918, and 1919, in six typical counties.*

DIVISION A—DISTRIBUTION BY YEARS.

No. of county.	One-teacher schools.				Two-teacher schools.			
	Three different teachers.	One teacher two years and one teacher one year.	One teacher three years.	Total.	Three different teachers.	One teacher two years and one teacher one year.	One teacher three years.	Total.
1.....	57	69	38	164	17	21	12	50
2.....	55	58	14	127	4	6	4	14
3.....	108	155	54	317	23	54	41	118
4.....	63	57	4	124	1	5	2	8
5.....	11	25	3	39	7	8	5	20
6.....	152	123	50	325	15	20	17	52
Total.....	446	487	163	1,096	67	114	81	262

DIVISION B—DISTRIBUTION IN PER CENTS.

No. of county.	One-teacher schools.				Two-teacher schools.			
	Three different teachers.	One teacher two years and one teacher one year.	One teacher three years.	Total.	Three different teachers.	One teacher two years and one teacher one year.	One teacher three years.	Total.
1.....	35	42	23	100	34	42	24	100
2.....	43	46	11	100	29	42	29	100
3.....	34	49	17	100	20	45	35	100
4.....	51	46	3	100	13	62	25	100
5.....	28	64	8	100	35	40	25	100
6.....	47	38	15	100	29	38	33	100
Total per cent.....	41	44	15	100	26	43	31	100

Considerable variation, particularly in the case of the teachers in the one-teacher schools, will be observed in comparing the six counties. For instance, in county 1, Division B, the records show that 23 per cent of the one-teacher schools had the same teacher for three years, and 35 per cent of the schools had three different teachers. On the other hand, in county 4 only 3 per cent of the one-teacher schools have had the same teacher, and 51 per cent have had three teachers; or, expressed in numbers, as shown in Division A, four of the schools out of the 124 had the same teacher over a period of three years, and 63 schools had three different teachers. It should

be noted, however, that in county 4 a large proportion of the school districts have seven months school terms, a great many of the teachers hold provisional certificates, and the school boards as a rule pay their teachers the minimum salary. On the other hand, county 1 has a large number of school districts with eight months terms, and the teachers for the most part hold professional and permanent certificates and normal-school diplomas. County 3, with a State normal school located within its boundaries, represents what might be termed the average for the group, in that 17 per cent of the schools report one teacher for the three-year period and 34 per cent three different teachers.

If these conditions, such as were found to exist in the six counties which we have just discussed, obtain over the entire State of Pennsylvania it would mean that among the 10,038 one-teacher schools there have been during the past three years, 1917, 1918, and 1919, approximately—

4, 100 schools with 3 different teachers.
4, 400 schools with 1 teacher 2 years and 1 teacher 1 year.
1, 500 schools with 1 teacher over the 3-year period.

---

10, 000

These facts should help to bring forcibly before the school authorities of the State the tremendous problem of teacher tenure or instability of the teaching force that county superintendents are constantly obliged to face. This study, as previously stated, will not discuss causes and possible remedies, but it does clearly point out the fact that something must speedily be done to solve this most unfortunate condition in the rural schools.

#### NEW TEACHERS WITHOUT EXPERIENCE AND EXPERIENCED TEACHERS IN NEW POSITIONS.

The county superintendents of 18 counties from all sections of the State indicated in their directories of teachers for the present school year, 1919-20, those teachers, both in the one-teacher and two-teacher schools, who are new, that is, without any experience, and those in a new position although experienced. These data are tabulated in Table 43, Division A, showing that 780, or 30 per cent, of the teachers in the one-teacher schools of these 18 counties totaling 2,640 are "beginners," without any previous experience, and that 977, or 37 per cent, of the teachers in the one-teacher schools, while experienced, are teaching in a new position. This means that 67 per cent of the one-teacher schools of these counties have a different teacher this year from last.

In Division B of this same table the data are reported for the teachers in the two-teacher schools in 14 of these counties. These data are also obtained through the directories as furnished by the county superintendents. Of the 606 teachers in two-teacher schools, 71, or 12 per cent, are new teachers without any previous experience, and 197, or 33 per cent, of the 606 teachers, although experienced teachers, are in a new position. Since these two-teacher schools are located in the same counties as the one-teacher schools, it is interesting to note the marked difference between the one-teacher and two-teacher schools in regard to the percentage of new teachers without any previous experience.

TABLE 43.—*Number and per cent of new teachers without experience and with experience in a new position in one-teacher schools and two-teacher schools in 18 counties.*

## DIVISION A.—ONE-TEACHER SCHOOLS.

No. of county.	One-teacher schools.	New teachers without experience.	Teachers with experience in new position.	Per cent of new teachers without experience.	Per cent of teachers with experience in new position.
1.....	223	61	100	23	45
2.....	223	55	80	24	36
3.....	219	53	113	24	51
4.....	189	68	70	36	37
5.....	128	33	54	25	40
6.....	222	69	91	26	41
7.....	170	112	52	66	31
8.....	22	5	12	23	54
9.....	58	20	19	30	35
10.....	225	47	67	21	30
11.....	139	26	50	17	32
12.....	128	50	59	38	46
13.....	96	20	39	20	41
14.....	132	50	37	38	28
15.....	108	31	15	29	14
16.....	155	48	60	31	39
17.....	72	15	19	21	26
18.....	118	27	53	23	45
Total.....	2,640	780	977	30	37

## DIVISION B—TWO-TEACHER SCHOOLS.

No. of county.	Two-teacher schools.	New teachers without experience.	Teachers with experience in new position.	Per cent of new teachers without experience.	Per cent of teachers with experience in new position.
1.....	38	5	28	13	74
2.....	40	1	26	3	66
3.....	60	7	13	12	30
4.....	60	4	21	7	35
5.....	110	24	40	22	36
6.....	60	6	10	9	14
7.....	24	1	8	4	33
8.....	28	1	6	4	21
9.....	6	2	4	33	67
10.....	52	8	14	15	27
11.....	12	3	25	25	2
12.....	88	2	11	2	13
13.....	4	1	1	25	25
14.....	16	6	10	37	63
Total.....	608	71	197	12	33

The variation among the different counties is quite marked, as indicated in the table, since the range in per cent of new teachers without experience in the one-teacher schools extends from 17 in county 11 to 66 in county 7, and in the case of experienced teachers in a new position from 14 in county 15 to 54 per cent in county 8. In the two-teacher schools the variation in per cents is practically as pronounced, namely, 2 in county 16 to 37 in county 18 in the case of the new teachers without experience, and 13 in county 16 to 67 in county 13 of the teachers with experience in a new position. While some of these counties show some extreme per cents, the large proportion center about the average per cents for the combined group found at the foot of each column, respectively, of Table 43.

If the percentages as found in these 18 typical counties hold true for the State as a whole, it would mean that among the 10,038 teachers in one-teacher schools, approximately—

3,000, or 30 per cent, are new teachers without previous experience;  
 3,700, or 37 per cent, are experienced teachers in a new position;  
 3,300, or 33 per cent, are teachers in the same position as last year.

10,000, total.

In comparing the per cent of new teachers in Pennsylvania this year with the available data from other States, it appears that in Alabama in 1916 there were "17.6 per cent rural and village teachers in their first year,"<sup>11</sup> in South Dakota "31.2 per cent of the rural teachers are teaching their first school,"<sup>12</sup> in Virginia in 1918-19 "35.9 per cent white teachers in one-teacher schools had no experience,"<sup>13</sup> and in New York "17 per cent of the teachers were on their first year's experience in 1918-19."<sup>14</sup>

According to an unpublished investigation made by the bureau of certification and training of teachers in the State department of public instruction this number of 3,000 new teachers without any previous experience in one-teacher schools is approximately one-half of the entire number of the new teachers under county supervision.<sup>15</sup> The figures as shown by the report are 5,162 "new teachers." However, as eight of the counties of the State are not included in the report, if the same percentage of new teachers should obtain in these missing counties, it would mean that for this year, 1919-20, there are according to this State report approximately 6,200 "new teachers" among the entire number of 23,897 teachers under county supervision. This number of new teachers is considerably higher than the number of new teachers in 1917-18 given in the annual report issued by the State superintendent of public instruction in 1918, in which it is reported that 4,044 teachers under county supervision had no previous experience.<sup>16</sup>

According to a study made in Pennsylvania in 1917 there were 4,697 new teachers needed in the schools under county supervision, of whom 2,876 were needed in the rural schools.<sup>17</sup>

In the light of these facts it is evident that the demand for new teachers has greatly increased during the past few years. When it is considered that approximately 1,850 prospective teachers were graduated from the Pennsylvania State normal schools in 1919, of whom, according to the normal school principals,<sup>18</sup> approximately 15 per cent, or 275, entered one-teacher rural schools to meet the demand for approximately 3,000 new teachers alone, not to mention the 6,000 needed in all schools under county supervision, some estimate can be formed of the great teacher emergency in Pennsylvania. Many additional training facilities, as well as the enlarged use of those now in existence, must be provided or the schools, if they are to be continued, will be filled necessarily with an inadequate and poorly trained teaching force through lowered standards of admission.

<sup>11</sup> An Educational Study of Alabama. U. S. Bu. of Educ., Bul., 1919, No. 41, p. 349.

<sup>12</sup> Educ. System of S. Dak. U. S. Bu. of Educ. Bul., 1918, No. 31, p. 210.

<sup>13</sup> Va. Pub. Sch. Survey, p. 333.

<sup>14</sup> Engelhardt. The Teaching Profession in the State of New York.

<sup>15</sup> Unpublished report of the Teacher Shortage by the Bureau of Certification and Training of Teachers, Dept. of Pub. Instruction for Pennsylvania.

<sup>16</sup> Rep. State Supt. Pub. Instruction, Harrisburg, 1918, p. 611.

<sup>17</sup> Harbold, P. M. Proc. Principals of Pa. State Normal Schools, 1917, p. 24.

<sup>18</sup> Replies to a questionnaire sent to State normal-school principals of Pennsylvania.

## Chapter VII.

### SALARIES.

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The salaries received by teachers in the one-teacher schools in Pennsylvania vary greatly, both in respect to those paid to teachers in schools other than one-teacher schools of the same county and in respect to those paid teachers in the same type of schools but in different counties. In addition to the data on salaries secured directly from the teachers of the 18 counties covered by the questionnaire for the year 1917-18, information was obtained from 15 county superintendents regarding the salaries paid to all the teachers under their supervision in 1918-19. These facts have been worked up in the following tables and diagrams. The data taken from the official directories comprising the salaries of all the teachers in the one-teacher schools of the respective counties for the school year 1918-19 are complete and accurate, inasmuch as they are made up from the annual reports submitted to the county superintendents by the secretaries of the school boards of the various school districts. In each case the salary is the total amount received by the teacher during the school year, irrespective of the length of term, which, in Pennsylvania, varies from 7 to 10 months.<sup>1</sup>

#### ONE-TEACHER SCHOOLS IN TOWNSHIPS.

The salaries of the teachers in the one-teacher schools in the 15 counties represented by 2,368 cases, as shown in Table 44, division A, range from \$315 to \$800, a difference of \$485 between the amounts paid the lowest and highest salaried teachers.

The median salary of this group is \$411, which means that 1,184 teachers, or half the number, receive less than this amount for the school year. Interpreting this salary by months, it represents an amount equal either to \$54 on the basis of the average school year for townships of 7.6 months (Table 46),<sup>2</sup> or to \$34.25 on the basis of the calendar year. The middle 50 per cent receive a salary ranging from \$383 to \$478, with a quartile deviation of \$47.50, which fact indicates a close grouping of the salaries about the mid-point.

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<sup>1</sup> Since these data on salaries were gathered and tabulated the Pennsylvania Legislature, in June, 1919, passed what is known as the "Woodruff salary bill." Through this measure the salaries of all teachers who received less than \$100 per school month were increased 25 per cent in 1919-20, those receiving \$100 and not more than \$150 were increased 20 per cent, etc. Since this law was interpreted to affect the teaching position, and since practically all the teachers in the rural schools received less than \$100 per month in 1918-19, as will be shown in this study, for practical purposes it is therefore safe to add 25 per cent to the amount of salary herein set forth, to determine the salaries paid during the current school year 1919-20. Pa. Sch. Law, and app., 1919, Art. XII, sec. 1210.

<sup>2</sup> See p. 66.

TABLE 44.—Distribution of salaries of teachers in elementary one-teacher schools, two and more than two-teacher schools, and elementary schools combined in townships of 15 counties in 1918-19.

## DIVISION A—ONE-TEACHER SCHOOLS.

No. of county.	Salaries.																			To- tal.	Me- dian sal- aries.			
	\$300	\$325	\$350	\$375	\$400	\$425	\$450	\$475	\$500	\$525	\$550	\$575	\$600	\$625	\$650	\$675	\$700	\$725	\$750			\$775	\$800	\$850
1.....	5	.....	29	50	50	.....	37	39	.....	9	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	221
2.....	3	.....	14	44	106	4	63	36	18	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	233
3.....	90	.....	17	58	28	13	10	10	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	206
4.....	.....	.....	18	3	15	8	12	40	19	18	2	23	.....	8	3	2	.....	.....	.....	.....	.....	.....	.....	171
5.....	.....	.....	2	1	9	4	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24
6.....	.....	.....	2	2	5	29	12	52	44	20	15	9	2	6	2	3	.....	.....	2	.....	.....	.....	.....	206
7.....	20	2	19	25	28	1	30	20	2	3	1	1	1	1	.....	.....	3	.....	.....	.....	.....	.....	.....	409
8.....	10	4	20	27	22	1	22	7	4	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	152
9.....	10	.....	3	9	12	2	.....	2	2	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	400
10.....	.....	.....	.....	.....	12	2	.....	48	7	17	9	3	16	8	.....	.....	.....	.....	2	.....	.....	.....	.....	386
11.....	3	.....	22	11	5	3	6	3	12	11	4	4	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	128
12.....	.....	.....	25	31	39	4	3	3	3	.....	.....	.....	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	500
13.....	22	.....	25	31	.....	.....	4	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	117
14.....	.....	.....	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	338
15.....	45	.....	8	21	40	.....	16	2	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	5	.....	.....	.....	.....	126
16.....	20	.....	2	21	7	13	1	8	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	385
17.....	20	.....	2	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	132
18.....	18	2	61	68	121	6	74	4	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	73
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	367
Total.....	246	8	233	371	494	106	282	272	113	84	38	41	19	29	5	7	10	.....	9	.....	1	.....	.....	2,368



Now, turning from the study of the group of counties as a whole, wide differences in salaries paid in the individual counties are noticeable. The median salaries of 8 different counties are lower than the group median, \$411; county 3, with a median of \$378, falls as far as \$33 below that of the entire group. Its range extends from \$315 to \$485, this latter amount being only \$7 higher than the third quartile (the 75 per cent point) for the entire group. County 13, while having the same low range as county 3, \$315-\$485, has, however, a better distribution in salaries, evidenced by its median falling on a higher point on the scale, namely, \$385.

In contrast with these counties ranking low in salaries as compared with the standards for the group as a whole, is county 10, which has a median salary of \$500. The salaries of one-half the teachers of this county are greater by \$22, or more than the amount representing the 75 per centile, \$478, of the composite group. County 6 likewise has a median salary of \$500, which is \$122 higher than the mid-point of county

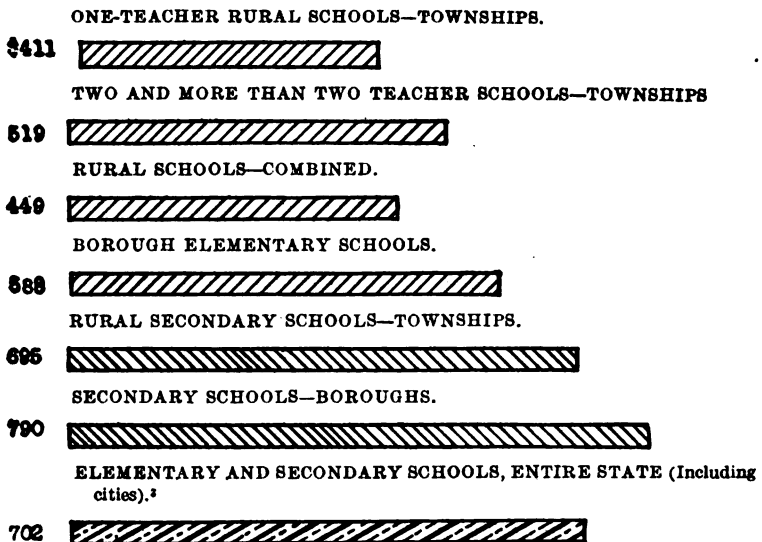


DIAGRAM 5.—Distribution of median salaries of elementary and secondary teachers in 1918-19 in the different types of schools in Pennsylvania.

3, \$378, the lowest with respect to salary of all the counties reporting, and \$89 higher than the median salary for the entire group, thus indicating an astonishingly wide range in median salaries.

#### SCHOOLS OF TWO AND MORE THAN TWO TEACHERS IN TOWNSHIPS.

In order to show the true situation concerning the salaries paid teachers in the one-teacher schools in the open country, and to understand more thoroughly the causes for these existing conditions, it seems advisable to look into the salary situation in the schools of two and more than two teachers in townships. Table 44, Division B, indicates the salaries of the 933 teachers in these schools in the same 15 counties used in the previous division. The median salary for these teachers is \$519; the range extends from \$315 to \$1,300; the middle 50 per cent from \$460 to \$630, with a quartile deviation of \$85, which is almost twice as great as the deviation in salaries of teachers in the one-teacher schools, thus indicating a much wider distribution of salaries about the point of central tendency. In comparing the median salaries of the teachers in one-teacher schools, Division A, with the median salaries of those

<sup>2</sup> Statistics of State School Systems, 1917-18, Bonner H. R., U. S. Bu. of Ed., Bul. 1920, No. 11, P. 42.



in two and more than two-teacher schools, Division B, of the same individual counties, it will be observed that the extent of difference in salaries in the two types of schools is most pronounced, ranging from \$311 in county 12 to \$14 in county 3. The average difference for the entire group of 15 counties is \$91.

It should be especially emphasized that the median salary, which for practical purposes is approximately the same as the arithmetical average, is, in the case of the teachers in the schools of two and more than two teachers, \$108 higher than that of the one-teacher schools in the same townships of the respective counties. Such conditions exist in spite of the fact that these two types of schools are frequently found in townships controlled by the same board of directors, in whose hands lies the power of determining the amount of salary paid the teachers. Upon investigating some of the individual school districts in these counties, the writer finds that in the same townships teachers in the schools of two and more than two teachers are receiving as high as \$20 more monthly salary than teachers with practically the same qualifications and in many cases an equal amount of experience in the one-teacher schools. In other words, teachers are frequently transferred by the school boards from a one-teacher school to a more centralized village school of two or more than two teachers in the same district, not only being paid a larger salary, but in many cases given a janitor besides. These facts may help to explain the difficulties that county superintendents have to face in stabilizing their teaching force, and that school boards in their shortsightedness bring upon themselves in securing teachers to fill the vacancies in these one-teacher schools.

The grand total distribution of the salaries paid the 3,301 teachers, including all schools of the townships for the 15 counties combined, will be found in Division C, Table 44. The median salary for this combined group of township elementary teachers is \$449, and the first and third quartiles, \$393 and \$508, respectively, with a quartile deviation of \$57.

#### BOROUGH ELEMENTARY SCHOOLS.

The data relating to salaries in boroughs help to throw further light on the salary situation of the one-teacher schools. The median salary of the 1,205 borough elementary teachers as found in Table 45 is \$588. At a glance one may see that this amount is \$139 higher than the median salary (\$449) paid to the teachers in the combined group of schools in townships in the same counties, and \$177 higher than the median salary (\$411) paid to teachers in the one-teacher schools in the open country.

TABLE 45.—*Distribution of salaries of teachers in elementary schools in boroughs of 15 counties, 1918-19.*

No. of county.	\$300	\$325	\$350	\$375	\$400	\$425	\$450	\$475	\$500	\$525	\$550	\$575	\$600	\$625	\$650	\$675	\$700	\$725	\$750	\$775	\$800	\$850	\$900 or more.	Total.	Median sal.-area.
1.....								2	3	11	4	12	7	14	2	5	2	2	4	1	1	2		81	607
2.....					6	1		4	3	30	1	49	1	19		10	2	1	1					124	587
3.....	2		2		2		12	4	3	24	7	18	1	4			2	1						72	544
4.....							3		2	24	14	14	10	29	7	2	17	4	13	2	1	1	1	16	630
5.....									2	2		13	6						2		2			16	668
6.....									5	21	6	32	6	6		4	3							86	885
7.....					1	3	4	4	4	6	19	14	1	10	1	4	2							92	887
8.....			1		1	3	2	1	27	2	12	6	14	21		8	1		1		1			82	684
9.....									5	1	3	14												5	500
10.....								7		1		14	5	19	8	12	8	2	3	4	2	4	3	95	649
11.....							3		6	11		19	6	17	15	19	8	8	6	4	2	4	2	134	659
12.....	1						14	19	1	18	1	10		12		3	1		1		1			84	534
13.....					3	2	2	5	11	2	2	5	4		2	1								39	518
14.....							1	4		11		3												24	542
15.....	1		1	3	5	3	2	16	18	16	6	26	4	10	1	14	1							127	549
Total.....	4		4	4	22	11	27	86	85	183	67	243	45	168	34	82	45	17	31	13	14	12	8	1,205	588

Range \$31.6 to \$1,100, first quartile \$533, median \$588, third quartile \$643, quartile deviation \$56.

## LENGTH OF SCHOOL TERM IN TOWNSHIPS AND BOROUGHES.

The length of the school term is undoubtedly a determining factor in explaining the marked variations in teachers' salaries prevalent in the counties throughout the State. Table 46, Divisions A and B, indicate in months the length of school terms in townships and boroughs of the 15 counties previously discussed in this chapter according to the 1918 report of the State superintendent of public instruction for Pennsylvania.<sup>4</sup> There are 629 school districts in these 15 counties, of which 403, or 64 per cent, are townships and the remaining 226, or 36 per cent, are boroughs. It will be noticed that the average length of term in townships is 7.6 months, while that in the boroughs is 8.6. Fifty-eight per cent, or over half, of the townships have a school term of 7 months, the minimum requirement by law, while only 11 per cent of the boroughs limit their terms to this minimum standard. On the other hand, it is interesting to note that almost the reverse is true in the case of the 9 months' term, namely, 53 per cent in boroughs, and 14 per cent in townships. In the case of the 8 months' term, townships and boroughs show no appreciable difference.

TABLE 46.—Length of school terms in months in townships and boroughs of 15 counties in 1918.

DIVISION A—TOWNSHIPS.<sup>1</sup>

Months.	Counties.															Total.	Per cent.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
7.....	27	32	28	3	2	5	16	17	2	9	8	13	21	13	35	232	58
8.....	1	9	8	11	3	33	4	3	5	4	12	4	.....	6	1	104	26
9.....	.....	.....	1	17	.....	17	2	2	.....	3	14	3	.....	.....	.....	50	14
10.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	1	.....	.....	.....	8	2
Total.....	28	41	37	31	6	55	22	22	7	16	41	21	21	19	36	403	100

DIVISION B.—BOROUGHES.<sup>2</sup>

Months.	Counties.															Total.	Per cent.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
7.....	2	3	7	.....	.....	.....	1	2	.....	.....	.....	2	3	.....	4	24	11
8.....	8	5	4	1	1	5	6	4	.....	1	.....	1	4	.....	22	62	27
9.....	6	14	9	16	1	11	4	12	.....	6	14	9	2	5	10	120	53
10.....	.....	2	.....	5	.....	1	.....	.....	1	3	9	.....	.....	.....	.....	20	9
Total.....	16	24	20	22	2	17	11	18	1	10	23	12	9	5	36	226	100

<sup>1</sup> Arithmetical average of terms, 7.6 months.

<sup>2</sup> Arithmetical average of terms, 8.6 months.

When the practice in individual counties is considered, it is apparent that there is very great variation in the length of school terms among the townships and boroughs. In counties 1 and 13 all the townships have a 7 months' term, with the exception of one township found in county 1, while 20 out of 25 boroughs in these same counties have 8 or 9 months' terms, which facts show that the townships, with 98 per cent maintaining a 7 months' minimum term, in comparison with the boroughs are being very much handicapped educationally by their shorter school terms. On the other hand, counties 6 and 11 have 76 out of 96 township districts with 8 or 9 months' terms, with county 11 having as many as 7 townships maintaining a school term of 10 months.

<sup>4</sup> Rep. Supt. Pub. Instruction, 1918, pp. 372-601.

The practice in these townships, in comparison with the boroughs of the same counties, shows that the length of school term is relatively the same. This practice is a commendable feature in the management of the schools on the part of the school boards of these townships, inasmuch as it affords educational opportunity equal to that offered in the boroughs.

In the light of these facts it will now be seen what bearing the variation in the average length of school term has on the salary paid the teachers in the different types of schools. By considering the average school term for townships as 7.6 months, and the yearly salary as either \$411, the median salary for the teachers in one-teacher schools (Table 44, Division A), or \$519, the median salary for the teachers in the school

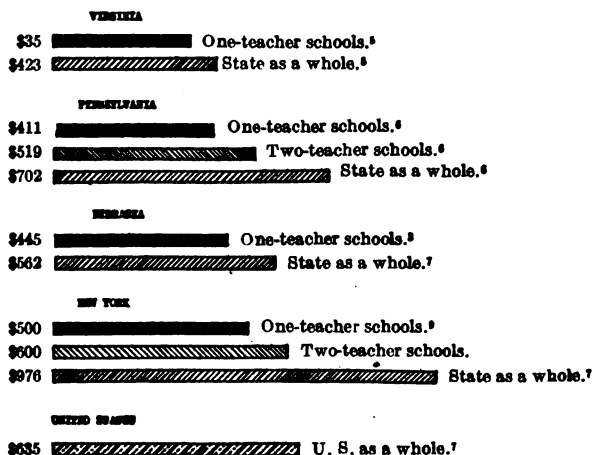


DIAGRAM 6.—Median teachers' salaries in Pennsylvania in one-teacher schools, in two-teacher schools, and in the State as a whole in 1918-19, compared with a typical Eastern, Southern, and Western State and United States.

of two and more than two teachers (Table 44, Division B), it will be found that the average monthly salary is, in the first case, \$54, and in the second, \$68. Taking the median salary as \$449 for the entire group of teachers in townships (Table 44, Division C), and dividing by 7.6, the average number of months in the school term, it shows a monthly salary of \$59. However, if we consider 8.6 months the average length of term for boroughs, and the median borough salary as \$588 (Table 45), it will be seen that the average monthly salary is \$68.

The above facts show that the average monthly salary in boroughs is \$9 higher than the average salary received by the combined group of elementary teachers in townships. The average monthly salary for the teachers in schools of two and more than two teachers in townships is \$68, exactly the same as the average monthly salary for the boroughs, which means that the higher salaries paid to teachers in boroughs, as compared with the schools of two and more than two teachers in the townships, are due apparently to the longer school term rather than the larger monthly salary.

\* Va. Pub. Sch. Survey, pp. 142, 337.

\* See p. 62.

† Bonner, H. R. Statistics of State Sch. Systems, 1917-18, U. S. Bu. of Educ., Bul. 1920, No. 11, p. 114.

‡ The Rural Teacher of Nebraska. U. S. Bu. of Educ., Bul. 1919, No. 20, p. 53.

§ Engelhardt, F. The Teaching Profession in the State of New York.

However, the significant fact in all of this is that the teachers in one-teacher rural schools in these 15 counties receive on an average \$14 per school month less than the teachers in the schools of two and more than two teachers in the same townships, have the same length of school term, and are controlled by the same boards of education. There seems to be no logical reason why teachers of practically the same training and experience in one-teacher rural schools should receive less salary than those in schools of two or more than two teachers, and since the facts show that this difference does exist to such an extent as to average \$14 per month, not to mention the extreme differences at the upper and lower ends of the range, it certainly does give a tremendous argument in favor of an extra State "bonus" to these teachers. This principle was recognized in the recent Woodruff salary bill providing an extra State bonus of \$5 per month to rural teachers, but we can not see any reason why this small amount should be considered at all adequate to meet the situation in Pennsylvania, provided the bonus scheme is decided upon as the best plan to solve this, one of the most difficult phases of the rural school problem.

The evidence so far cited seems to warrant the conclusion that one of the main factors in explaining variations in annual salary in counties is the difference in length of school terms in townships and boroughs. From this pronounced difference between townships and boroughs, and from the added fact that school boards in these townships and boroughs usually pay only the minimum salaries, teachers would naturally be drawn, on economic grounds alone, if on no other, from the rural one-teacher schools to the schools of two and more than two teachers in townships paying higher salaries, and of course to borough elementary schools with the longer school terms.

It is also a noteworthy fact that many boroughs have a small number of teachers, consisting in some of the counties of 1, 2, and 3 teachers, and in two of the counties listed in Table 46 the boroughs have an average of 4 teachers for the entire county. Certainly a situation, for example, in which 9 teachers in a township receive a minimum salary of \$45 or \$50 per month for a 7 months' term, when in the same township there is located a small borough of 1, 2, or 3 teachers receiving a minimum salary of \$55 or \$60 with an 8 months' term, to say the least is not conducive to the maintaining of a stable teaching force or the improving of the status of the teacher in the one-teacher schools of such a township.

One might well ask the question whether some form of county local unit of more centralized school control would not help to solve these problems directly affecting the rural teachers, in which the county superintendent and county board of education would have more power in maintaining more uniform salary schedules and a more equitable school term.

#### SALARY IN RELATION TO CERTIFICATES.

Since it was shown in the previous chapter that the types of certificates held generally by teachers in the one-teacher rural schools in Pennsylvania are provisional, professional, permanent, and State normal certificates or diplomas, we shall now see how salaries in 1918, as reported through the questionnaires, are distributed on this basis. In the accompanying Table 47, the salaries of 1,383 teachers from 18 counties of the State are distributed according to the type of certificates held. Of this total number reporting, 47 per cent hold provisional certificates, 22 per cent professional, 13 per cent permanent, and 18 per cent State normal certificates or diplomas, which percentages correspond quite closely with the percentages of certificates held by the teachers in 28 counties of the State as reported in Chapter V.

TABLE 47.—*Salaries paid to teachers in one-teacher schools according to certificates held.*

Certificates.	\$300- \$324	\$325- \$349	\$350- \$374	\$375- \$399	\$400- \$424	\$425- \$449	\$450- \$474	\$475- \$499
Provisional.....	354	10	80	50	79	30	13	14
Professional.....				162	38	42	9	24
Permanent.....					113	6	8	31
Normal certificates and diplomas.....				36	85	30	19	42
Total.....	354	10	80	248	315	117	54	111

Certificates.	\$500- \$524	\$525- \$549	\$550- \$574	\$575- \$599	\$600- \$649	\$650- \$700	Total.	Per cent.	Median salaries.
Provisional.....	2	1	1				648	47	\$322
Professional.....	2	13	5	2	1		299	22	368
Permanent.....	8	13	5	1	3	1	189	13	421
Normal certificates and diplomas.....	6	11	9	5	3	1	247	18	427
Total.....	19	38	20	8	7	2	1,383	100	400

By studying this table one can see that over 50 per cent of the teachers holding provisional certificates receive a salary of \$315, the minimum legal salary for a seven-months' school term in 1918.<sup>10</sup> The second largest number in the group holding provisional certificates receive a salary of \$360, which amount is the minimum monthly salary of \$45 required by law, for an 8 months' term. Practically 75 per cent of the number of teachers who reported holding provisional certificates receive a minimum salary of \$45 per month for a 7 or 8 months' school term.

In the case of teachers holding professional and permanent certificates, more than half the number receive \$385 and \$420, respectively—again the minimum monthly salaries of \$55 and \$60 required by law for these types of certificates in 1918 for a 7 months' term.<sup>11</sup> It is also noteworthy that the second largest number of teachers in each of these groups receive the minimum salaries for an 8 months' term, \$440 and \$480, respectively. The quartile deviation of both groups holding professional and permanent certificates is very small, indicating a close distribution about the medians which are the legal minimum salaries.

The range of salaries for teachers holding normal-school certificates or diplomas is very much greater than for those holding provisional, professional, and permanent certificates, namely, \$385 to \$700; however, the median salary for this group is only \$427, just \$6 more than the median salary for the teachers holding permanent certificates, and \$29 higher than the median for those holding professional certificates. This can probably be explained from the fact that the minimum salary by law in 1918 for a normal-school graduate with less than two years' experience was \$55, the same as that paid to a teacher holding a professional certificate, and \$60 for a normal-school graduate of two or more years' experience, the same amount received by a teacher holding a permanent certificate.<sup>12</sup> Thus, it can be seen that nearly 60 per cent of the teachers holding normal certificates and diplomas receive the minimum salary of \$385 and \$420 for a seven months' term, and that 30 per cent of the group receive \$440 and \$480, the minimum salary, for an eight months' term.

The above facts clearly show that, in the case of each of the four types of certificates, over 50 per cent of the teachers in the one-teacher rural schools receive minimum salaries for a seven months' term, and that approximately 80 per cent of all the teachers reporting receive the minimum amount required by law, either for a seven or an eight months' term. One would naturally expect that a great many teachers holding the lower class of certificates requiring practically no professional training would receive the minimum salary, but to discover that as many as 78 per cent of the teachers professionally trained, holding State normal certificates or diplomas, are receiving the minimum monthly salary of \$55 or \$60 is startling evidence against the unfortunate

<sup>10</sup> Pa. Schl. Laws, and app., 1919, Art. XII, sec. 1210, part 4.

<sup>11</sup> *Ibid.*

<sup>12</sup> Sch. Laws of Pa., 1917, Art. XII, sec. 1210.

practice of school boards in their nonrecognition of professional training by their persistence in paying these teachers only the minimum amount required by law. These facts alone show that the minimum-salary law is probably the most potent factor in determining salaries in the rural districts.

The same facts and tendencies prevalent among the combined group of counties which we have just discussed are probably even better illustrated in the accompanying Table 48, showing how salaries are distributed according to certificates in four typical counties. It is not the purpose of the writer to analyze the salaries paid teachers in these counties and the causes for the same, but merely to indicate, by using the four typical counties, the wide variations that exist in the number and kinds of certificates held by the teachers, together with their accompanying salaries. In counties 1 and 2 a large majority of the townships have a minimum school term of seven months, while in counties 3 and 4 more than one-half have eight and nine months' terms (Table 46). The same general practice of paying the minimum salary required by law, previously shown as prevailing among the counties as a whole, is even more apparent in each of these individual counties.

TABLE 48.—Salaries paid to teachers in one-teacher schools according to certificates held (Four typical counties.)

COUNTY 1.															To- tal.
Certificates.	\$300- \$324.	\$325- \$349.	\$350- \$374.	\$375- \$399.	\$400- \$424.	\$425- \$449.	\$450- \$474.	\$475- \$499.	\$500- \$524.	\$525- \$549.	\$550- \$574.	\$575- \$599.	\$600- \$624.	\$625- \$649.	
Provisional.....	47	.....	2	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	52
Professional.....	.....	.....	.....	26	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	28
Permanent.....	.....	.....	.....	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16
Normal certificate or diploma.....	.....	.....	.....	3	6	.....	1	.....	.....	.....	.....	.....	.....	.....	10
Total.....	47	.....	2	32	24	.....	1	.....	.....	.....	.....	.....	.....	.....	106

COUNTY 2.															To- tal.
Provisional.....	36	.....	10	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	49
Professional.....	.....	.....	.....	30	6	.....	1	.....	1	.....	.....	.....	.....	.....	38
Permanent.....	.....	.....	.....	19	1	.....	1	.....	.....	.....	.....	.....	.....	.....	21
Normal certificate or diploma.....	.....	.....	.....	3	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	8
Total.....	36	.....	10	36	30	1	1	1	1	.....	.....	.....	.....	.....	116

COUNTY 3.															To- tal.
Provisional.....	30	2	12	5	9	1	1	1	1	.....	.....	.....	.....	.....	62
Professional.....	.....	.....	.....	20	10	2	3	3	.....	2	.....	.....	.....	.....	40
Permanent.....	.....	.....	.....	7	5	4	2	2	.....	.....	1	.....	.....	.....	21
Normal certificate or diploma.....	.....	.....	.....	6	6	4	1	2	1	1	1	.....	.....	.....	22
Total.....	30	2	12	31	32	12	9	8	4	3	2	.....	.....	.....	145

COUNTY 4.															To- tal.
Provisional.....	1	2	10	4	2	10	1	3	.....	.....	2	.....	.....	.....	35
Professional.....	.....	.....	.....	.....	.....	8	.....	6	.....	2	.....	.....	.....	.....	17
Permanent.....	.....	.....	.....	.....	.....	.....	.....	9	.....	.....	3	.....	.....	.....	15
Normal certificate or diploma.....	.....	.....	.....	1	.....	13	6	32	7	1	5	2	.....	.....	67
Total.....	1	2	10	5	2	31	7	50	7	5	10	3	1	.....	134

Teachers from one-teacher rural schools with higher certificates migrate to schools of two and more than two teachers in townships, and to borough elementary schools to get increased salaries, causing vacancies in the rural schools which must be filled by county superintendents issuing temporary provisional certificates to a constantly changing corps of new inexperienced teachers. There are, of course, some rural school districts which provide for a longer school term or fix their salary schedule so that they can attract teachers with better academic and professional training; but these, as the facts indicate, are very much in the minority.

It might be in order to note here that in the questionnaire sent out to the teachers, they were asked to state the salary that they had received the previous year, as well as

the present salary. In tabulating these results it appeared that, whenever salaries were increased, it was generally due to the minimum-salary law which went into effect in 1918, and the amount of increase was usually the minimum \$5 or \$10 per month increase required by law, depending on the type of certificate held.

BASES ON WHICH SCHOOL BOARDS RAISE SALARIES.

The factors and conditions which are taken into account by school boards as bases in determining increases in salary, according to the replies given by the teachers in the questionnaires, are listed in Table 49. Upon tabulating these different answers and omitting "no basis," fourth on the list, it is found that there are 57 different bases named.

TABLE 49.—*Bases on which school boards increase salaries as given by the teachers—Total distribution, followed by 8 typical counties.*

Bases for increased salaries.	Total 18 counties.	Typical counties.							
		1	2	3	4	5	6	7	8
Minimum salary law	337	40	51	8	26	24	68	13	17
Efficiency	96	6	5	2	10	2	21	1	
Experience	91		3		8	4	21		5
No basis	43	1		1	1	1	3	1	1
Certificate	40		1						
Legislature (when State raises it)	30	3	1	1	6				
Taxation	29		2		1		3	3	11
Do not know	25		1	1	1	1	4		2
Experience and certificate	19		1			13	2		3
When compelled	18		3			3	2		2
Efficiency and certificate	14	1	2				8		
Professional training	13						1		11
Experience and efficiency	12			2			8		1
Salaries are not raised	8					1		2	
\$5 per month	7			5					
Amount of work done	6						5		
Change of school	6				5				
Education	6					5			
State appropriation	6						2		
\$25 a year	6		1					1	
High cost of living—clothing	5		1	1			1		1
\$1 per month each year after fifth	5	1							
Protest of teachers	5			4	1				
Scarcity of teachers	5	1		2					
\$25 every two years	4						1		1
After 2 years \$5 per month	6		1						
First year experience, later law	4					1	2		
Limit	4				1				
Number of pupils	4							1	
\$25 a year until \$65	4				1				
War basis	3		2				1		
Yearly	3						1	2	
Absolute necessity	3						2		
After two years	3			1		2			
After visiting five schools	3		1			1			
After 2 years \$10 per month	3								
After 2 years \$25 year until maximum	3						1		
Experience (one case favoritism)	3						1		
To prevent teachers going to towns	2						1		
Whim of directors (by their own ideas)	2			1		1			
Because I earned it	2		1						
Custom	2			1		1			
Equalization of salaries	2			1					
Extra work	2							1	
Education and experience	2				1				
Income	2					1			
Unsatisfactory, after first year	2						1		
Limit \$55	2			1					
Money in treasury	2							1	
Number of pupils and ability	2					1			
Personal persuasion	2			1					
Raised twice after obtaining professional certificate	1						1		
Regulated scale	1					1			
State legislature and taxation	1								1
To secure and retain good teachers	1						1		
\$2.50 per month until 5 years	1								
Three times in 10 years	1								1
When a teacher less is needed	1					1			
Total number of replies	913	53	76	33	61	66	163	26	57



Since the teachers were asked in the questionnaires not to name the district in which they taught, there is no way of telling the number of school boards that are represented in the 913 replies. However, since approximately two-thirds of the teachers in the one-teacher schools in the townships of the 18 counties answered, and since they undoubtedly came from all sections of the counties, we are probably safe in assuming that a large proportion of the school districts of each of the 18 counties is represented. Inasmuch as the average number of township school districts for these counties is 27, it would seem safe to estimate on two-thirds this number or 18, thus giving replies representative of the practice of 224 different school boards throughout the 18 counties.

The data in this table show that 36 per cent of the replies gave as a basis the "minimum salary law," and that approximately 10 per cent additional replies include such as "legislature," "certificate," "when State raises it," etc., making a total of 46 per cent of the replies which refer directly or indirectly to the minimum salary law.

Analyzing further the factors and conditions that school boards consider in increasing salaries, one is surprised to find that "efficiency" and "experience," factors which would naturally be expected to receive more frequent consideration, were each named in only 10 per cent of the replies. A number of the bases were given in combination, such as "experience and certificate," "State legislature and taxation," "experience and efficiency," etc. As a separation of these combinations into their constituent parts would be merely a matter of opinion, it may be well to consider them jointly as listed.

Those who may look for unique replies in data of this kind find them in such expressions as "personal persuasion," "when a teacher less is needed," "\$1 per month each year after the fifth," "one case favoritism," "whim of directors," "after visiting five schools," etc.

It is of unusual interest to observe that "professional training" was named only 13 times, "education" 6 times, and the "high cost of living" 4 times. The latter fact is most unusual since the high cost of living has been one of the strongest arguments presented to school boards for increasing salaries.

Approximately 5 per cent of the teachers reported that their boards have no basis for increasing salaries, and 3 per cent admit frankly they "do not know." It should also be remembered that only 65 per cent of all the teachers who filled out the questionnaire answered the question which called for this information. Might this not indicate that a large proportion of teachers have no knowledge of the kind of consideration their school boards give the question of salaries, one of the most important factors in their social, economic, and professional welfare? It is not the purpose to offer these data on increasing salaries as necessarily conclusive evidence; but the material may be of importance from the standpoint of the many different kinds of reasons given, and from the fact that it helps to substantiate the previous conclusions concerning minimum salaries.

The discussion of this table thus far has been based on the distribution of the total number of replies as found in the first column of Table 50. Columns 1, 2, 3, etc., just following the total column, show the distribution of replies in typical counties. It will be observed that there is about the same number of diversified answers in each of these counties, and that the percentages of the more numerous replies are practically the same. There are, of course, some differences, but it is difficult to speak of these in any conclusive way because of the unequal number and proportion of replies in the separate counties.

#### SALARY OF MEN AND WOMEN TEACHERS.

Tables 50 and 51 show the salaries paid to men and women teachers, respectively. Of the total number reporting, 1,369 teachers, 1,070, or 80 per cent, were women; and 299, or 20 per cent, men, which is practically the same proportion as is found to exist in the 20 counties of the State (Ch. II).<sup>13</sup>

The median salary for men teachers is \$406, which is just \$6 higher than that for women, namely \$400, showing that the average salaries paid men and women teachers

<sup>13</sup> See page 8.

in the one-teacher rural schools on the basis of these replies is practically the same. This is further emphasized by the fact that both in the case of the men and women teachers, the range in salaries extends from \$315 to \$700. However, the quartile deviation of the salaries received by women teachers is \$53, which is twice the quartile deviation of the salaries received by the men, indicating a much greater variation and a wider distribution about the mid-point of the salaries paid women teachers as compared with those paid to men teachers. Let us now look at these tables from the point of view of the relationship existing between the experience of men and women teachers and their respective salaries.

TABLE 50.—*Relation of years of experience of men teachers to salaries.*

Salary.	Years of experience.																																Total.
	0	1	2	3	4	5	6	7	8	9	10	11	12-14	15-17	18-20	21-23	24-26	27-29	30-32	33-35	36-39	40-49	50-59	60									
\$300-\$324.....	21	5	17	4	1		1				1				1	1															52		
325-349.....				1																												1	
350-374.....	7	4	6	1		2		2	2	1	1	2	2	1																	29		
375-399.....	3	2	2	2	4	4	2	1	2			2	1	3	1			1	1	1	1	1	2								39		
400-424.....	2	1	2	1	5	7	7	4	1	5	3		14	12	11	7	9	5	3	3	5	3	3								113		
425-449.....	2	1			1		1				1																				9		
450-474.....			1		2	1	3						1							1											9		
475-499.....	4	1			3	1	3		1				2		3		4			1	3	1	1								28		
500-524.....	1				1					1		1						1													6		
525-549.....			1			1				1			1																		4		
550-574.....			1																		1										2		
575-599.....								1	1									1													3		
600-624.....						1																										1	
625-649.....			1																													1	
650-674.....		1																														1	
675-699.....				1																												1	
Total.....	40	15	31	10	17	17	20	9	7	8	7	3	21	17	16	8	14	7	7	7	7	8	3								299		

Median years of experience, 7; median salary, \$406.  $r = .20$  P. E. =  $\pm .037$ .

TABLE 51.—*Relation of years of experience of women teachers to salaries.*

Salary.	Years of experience.																															Total.
	0	1	2	3	4	5	6	7	8	9	10	11	12-14	15-17	18-20	21-23	24-26	27-29	30-32	33-35	36-39	40-49	50-59	60								
\$300-\$324.....	136	31	66	13	7	1		3	2		1		1			1			1		1										263	
325-349.....	3	1	1								1																				6	
350-374.....	53	8	22	13	5	1	2	1	1																						106	
375-399.....	17	20	17	20	17	13	15	10	6	6	5	6	6	3	2																164	
400-424.....	17	12	10	11	18	7	9	9	2	11	10	4	22	13	7	4	6	5	2	3	4	3	1								190	
425-449.....	17	2	7	6	15	10	6	1				1	1	2	2	1	1	2													76	
450-474.....	6	11	6	1	2	1	3	1	1				3	1	3																40	
475-499.....	15	16	14	7	10	14	6	6	1	5	1	4	10	1	1	1	1	2	1	1	1										116	
500-524.....	1		2	3	3	2	1	3	3	2		1		2	1	1		2													26	
525-549.....	1		6	6	5	5	4		4			2	2	4		2					1	1									42	
550-574.....	1		1	1	3	1	1	1		2	2		1	1	3																18	
575-599.....	1				2		2	1			2		1		1		1														10	
600-624.....					1			1	1							1			1			1									7	
625-649.....													3		1																4	
650-674.....					1																										1	
675-706.....				1																											1	
Total.....	256	101	152	82	89	56	49	37	21	27	23	18	63	23	23	5	9	12	5	6	6	6	1								1,070	

Median years of experience, 3.2; median salary, \$400.  $r = .20$  P. E. =  $\pm .0126$ .

## RELATION OF SALARY TO YEARS OF EXPERIENCE.

Among the group of 113 men teachers in Table 50 receiving a salary in the class interval \$400-\$424, the median step, it is evident that their experience ranges from 0 to 50 or more years. The median number of years of experience of this group is 15; the quartile deviation is 8.5 years, showing that there is an unusually wide varia-

tion in experience. Since the salaries of 52 teachers are found in the step \$300-\$325, it is apparent that they are holding provisional certificates, which by process of the law insure them a minimum salary of \$315, and account for their experience-limit of 3 or less years (with the exception of 5 teachers, as shown in the table) since the State law stipulates that provisional certificates can be renewed yearly by examination for a period of only 5 years. The teachers in this group having more than 5 years' experience probably held provisional certificates before the above provision of the recently passed Pennsylvania school code became effective.<sup>14</sup>

The median years of experience of the entire group of men teachers as shown in Table 50 is 7. It will be noticed that practically all the teachers receive a salary less than \$425 and have had less than 7 years' experience. In other words, only 30 teachers or approximately one-tenth of the teachers, are included in the group receiving more than \$425 salary and having seven or more years of experience. This means that in the case of 110 men teachers, or 37 per cent of the group who receive a salary in the median step \$400-\$424 or less, experience—at least beyond the seventh year—is not a factor in determining the increase in salary. It will be seen by inspection that there is little positive correlation in this group beyond the median salary and the median years of experience. The coefficient of correlation was found to be  $r = .20$  (Pearson's Product-Moment Method).

The replies of 1,070 women teachers, as shown in Table 51, indicate that the largest number, 263 teachers, receive a salary of \$315. With the exception of five teachers, all of this number report five or fewer years of experience, with 135, or approximately 50 per cent, new teachers without experience. Half of the entire number of women teachers, 535, receive a salary less than \$400, and have also had less than 3.2 years of experience. These teachers, like the men teachers, show the greatest range of experience of 0 to 50 years for the class interval in which the median salary is found, namely, \$400-\$424.

By drawing a line through the median years of experience, 3.2, and the median salary, \$400, nearly 400 of the total group will be included in the small quadrant from \$315 to \$400 salary and from 0 to 3 years of experience.

Just as the same amount of salary is paid to a group of teachers having a wide range in years of experience, so it can be seen at a glance that there is an equal diversity in the salaries paid to those having had the same amount of experience.

While there is a positive correlation between years of experience and salary of .20 in the case of the men teachers and .20 in that of the women teachers (Pearson's Product-Moment Method), it is evident from the tables that these relationships are probably due to the grouping of salaries and years of experience about the median points, respectively. It is also apparent that experience seems to center about 2 and 4 years, while salaries group themselves about \$385 and \$420. The certificate laws in Pennsylvania undoubtedly have a great bearing on this positive relationship in the lower part of the range, since it will be recalled from the previous chapter that 2 and 4 years of experience are required by law of applicants for professional and permanent certificates, and also that \$10 and \$15 monthly minimum salary increases above the minimum salary for provisional certificates are required by the same law for each successive type of certificate.<sup>15</sup> Of course the working out of the minimum salary law in itself would in a sense automatically cause this positive relationship.

The data seem to establish the conclusion that there is less positive relationship than might be expected in ascending the scale of experience and salary, and that the falling off is most marked above the various medians indicating very little relationship between higher salaries and longer years of experience.

<sup>14</sup> Pa. Sch. Laws, and app., 1919, Art. XIII, sec. 1302.

<sup>15</sup> Pennsylvania School Laws, 1917, Art. XII, sec. 1210.

# NUMBER OF INCREASES IN SALARY AS RELATED TO YEARS OF EXPERIENCE.

Since it has been shown that the factor of years of experience in general does not determine the amount of increase in salaries, let us now examine Table 52 to see what relation, if any, exists between the number of increases and years of experience. While over 500, or one-half the number of the 1,018 teachers submitting this information, have a median experience of 6.4 years, they had their salaries increased only three times. In other words, the average number of years of experience is slightly more than twice the average number of increases in salary for the same group of teachers. At first glance one would think this to be quite a good median relationship, but after studying the table more carefully, it is evident that there is probably very little correlation beyond 12 years of experience and 5 increases in salary. A large proportion of teachers receiving 3 and 4 increases, respectively, have been teaching more than 12 years.

TABLE 52.—Relation between number of increases in salary and years of experience.

Years of experience.	Number of increases in salary.										Total.	
	0	1	2	3	4	5	6	7	8	9		10
1.....	33	62										95
2.....	36	113										157
3.....	10	49	21	7								87
4.....	10	21	35	16	4							86
5.....	4	16	24	17	1							63
6.....	4	11	30	15	3							63
7.....		5	20	16	2							43
8.....	1	4	10	9	6							30
9.....	1	3	10	9	4	2						29
10.....		1	16	8	5	3						33
11.....		1	6	4	4	2						17
12.....		1		7	11	1						30
13.....			4	5	5	2						16
14.....			4	8	7	5						24
15.....		1	1	3	9	8						22
16.....			1	1	2	3	2					9
17.....			4	7	8	6	2					27
18.....				6	4	2	1					13
19.....			2	4	4	2						12
20.....				2	2	3	3					17
21.....			3	5	2	2	1					13
22.....			2		3	1						6
23.....				1	1	2	1					5
24.....				1	3	1	1					6
25.....				1	1	3	1					5
26.....			1	2	3	1		1				8
27.....					1	1	2					4
28.....			1	1	2	4	3	1				12
29.....					1	2	2					5
30-31.....				5	1	2	2	5	1			16
32-33.....			1	2	4	5	4		1			17
34-35.....			1	1	3	3	2	2	1			13
36-37.....					3	1		3	1			8
38-39.....					1	2	1	1			1	6
40-44.....	1		1	2	3	2	3	2				14
45-49.....	1					1			1			3
50 and above.....				1	1	2		1	1			6
Total.....	101	288	273	169	120	74	31	16	6	1	1,019	

$r = .50$  P. E. =  $\pm .016$ .

The important fact to be conveyed by this table is that the range in years of experience for teachers who have had no increase in salary is from 1 to 9; for those who have had 2 increases in salary, from 2 to 40; and for those who have had 3 increases the range is from 3 to 50 or more years of experience, with a median of 9.5 years. The data seem to show rather conclusively that teachers, at least beyond the median years of experience, 6.4 years, in many cases have not had the number of increases in salary determined by the years of experience. There is a positive correlation for the group as a whole, which can be indicated by  $r = .50$  P. E. =  $\pm .016$  (Pearson's Product-Moment Method).

## AGE OF MEN AND WOMEN TEACHERS AS RELATED TO SALARY.

Tables 53 and 54 show the salaries paid to men and women teachers on the basis of their ages. It will be seen that in Table 53 a large majority of the men teachers are 25 or less years of age. Beyond this age there seems to be practically no positive relationship between ages and amount of salary received. This can be illustrated best by studying the group of teachers receiving the salary of the median step, \$400-\$424, in which the distribution of ages extends all the way from 19 to 69 years. Since the median age of men teachers reporting is 27.3 years, it is especially interesting that the ages of the middle 50 per cent of this group of 118 teachers range from 28 to 45 years. In looking over the table more carefully, it is noteworthy that only 33 teachers beyond the age of 25, or approximately one-tenth of the group, receive more than \$420.

TABLE 53.—*Relation of age of men teachers to salary.*

Ages.	\$300- \$324	\$325- \$349	\$350- \$374	\$375- \$399	\$400- \$424	\$425- \$449	\$450- \$474	\$475- \$499	\$500- \$524	\$525- \$549	\$550- \$574	\$575- \$649	\$700	Total.
18.....	13		3			1								17
19.....	19		3		1	1								24
20.....	13	1	4	4	2	1	1							26
21.....	11	1	3	3			1	1		1				22
22.....	5		3	2	6	2		2						30
23.....	2		1	5	1		2	3					1	15
24.....	1		1	5	4	1		2		1				15
25.....			2	6	7		2	1	1					19
26.....				4	4									8
27.....			1	5										6
28.....			1	1	7									8
29.....				4	2			1						7
30.....			1	2	5	1		1	1					11
31.....	1			1	3		1	1						6
32.....			1	2	3									6
33.....					4									4
34.....			1	1	4									6
35.....					1									1
36.....				3	4	1								8
37.....				1	4			1						6
38.....				1	1		1	1						3
39.....			1	1	4			1						6
40.....			1	3	3									7
41.....					2	1			1					4
42.....				1	6			2						9
43.....					4									4
44.....					2				1					3
45.....				1	8							1		10
46.....					1	1								2
47.....		1		1	5			2						9
48.....					2			1						3
49.....								1						1
50.....				2	7	1	2	2			1			15
55.....			2	1	5			1						9
60.....			1	2	2	2	1	3						11
65 and above.					4									4
Total ..	65	3	29	61	118	14	11	25	4	2	1	1	1	336

r= .41. P. E. = ±.0312.

TABLE 54.—*Relation of age of women teachers to salary.*

Ages.	\$300- \$324	\$325- \$349	\$350- \$374	\$375- \$399	\$400- \$424	\$425- \$449	\$450- \$474	\$475- \$499	\$500- \$524	\$525- \$549	\$550- \$574	\$575- \$599	\$600- \$624	\$625- \$649	\$650- \$699	\$700	Total.
18.....	78		29	5	3	6	1	2									124
19.....	80		26	17	5	19	6	12	1								166
20.....	78	2	18	12	11	15	6	19	2	1							164
21.....	29	2	15	30	14	12	13	7			1						122
22.....	15	1	13	13	12	10	3	12	2	4	1	1					87
23.....	8	2	9	20	5	9	6	12	1	3							75
24.....	5	2	3	12	12	5	1	3	5	1	2		1				52
25.....		1	5	12	8	3	1	3	1	2	1	2	1				40
26.....		1	3	5	1			1	2	2			1				16
27.....	5		3	8	6	5	1	6	2	1					1	1	39
28.....			2	6	8		2	2	1	1	1	1	1				22
29.....			1	8	4		1	4	1	1	1	1	2	1			25
30.....			1	3	6	1	3	4	3		2					1	22
31.....	3			2	8		3	4	1		3		1				25
32.....	2			1	6		2	2	1	1							15
33.....	1		2		1		1	1									7
34.....				1	5	1		2									9
35.....			1	2	4	1	1										9
36.....			1	1	5	1	1	3									12
37.....			1								1			1			4
38.....				1	4	2	1	3		1		1					12
39.....				1	1	1	1	1			1						4
40.....			1	1	1	1	1	2					2				9
41.....				1	1					1							3
42.....			1		1	1				1							4
43.....				1	2	1		2	1		1						8
44.....				1	2	1	1	1	1								7
45.....					1			1		1							3
46.....						1		1									4
47.....				1	1	1		2									2
48.....								1									10
49.....					2	2		1		1			2			1	6
50.....	1				1	1		1				1	1				3
51.....			1			1		1									
52.....										1	1						
53.....																	
54.....																	
55.....																	
56.....																	
57.....																	
58.....																	
59.....																	
60 and above																	
Total...	307	11	136	164	143	100	49	115	22	22	16	8	13	2	1	3	1,112

r = .42. P. E. = ±.016.

In the case of the women teachers, one can easily see by inspection of Table 54 that there is a positive correlation existing between ages and salaries. It is rather surprising too, that as many as 500 women teachers are represented in the quadrant bounded by the medians 22 years in age and \$400 in salary. The largest range in salary, \$315 to \$700, is found at the age of 27, and at least 80 per cent of the entire group of women teachers range in age from 18 to 27 years. The same condition holds true in this group as in the case of the men teachers, in that the range of ages is largest in the median salary step. However, we can not help but observe the long range in ages in the case of practically each salary paid, which can be well illustrated in the first class interval, \$300-\$324, in which the largest proportion of the entire group receiving the smallest salary, range in ages from 18 to 32 years.

Probably the outstanding fact in the data just presented is the scattering of cases both in respect to salary and age. While there is a definite positive relationship evident in the case of both men and women teachers between the age 22, or possibly 25 years, and a salary of \$420 or less, on the other hand, there is practically an entire lack of positive relationship between ages and salaries in ascending the scales beyond these points. The relationships expressed in figures of correlation are  $r = .41$  for men teachers and  $r = .42$  for women teachers (Pearson's Product-Movement Method). In other words for the entire group of men teachers and women teachers there is only a slight tendency for older teachers to receive the higher salaries.

## YEARS OF EDUCATION AS RELATED TO SALARY.

In Table 55 the teachers are listed according to the number of years of education which they have had beyond the elementary schools, comprising the work done in high schools, normal schools, and colleges. In comparing the distribution in education ranging from 0 to 8 years with salaries received, it is at once noticeable that there is practically no definite tendency shown, as evidenced by the negligible correlation  $r=.04$ . Teachers with 0 years of secondary or higher education receive salaries from \$315 to \$600, while those with 4 or 5 years' academic or professional training beyond the elementary grades also receive salaries extending over the same range, with the largest number of teachers in each case receiving the minimum salary of \$315. From the standpoint of salaries, the group receiving \$315 and the group receiving \$520 have secondary training extending over the same range of 0 to 6 years. These rather striking data further emphasize the fact that school authorities frequently fail to recognize by adequate tangible reward the education of teachers secured either before entering service or during service. It also further helps to establish the evidence previously expressed that years of experience, type of certificate, and local prerogative on the part of school boards are the predominating factors in determining salaries rather than academic or professional preparation in educational institutions. It would seem that the very low salaries paid rural teachers and the nonrecognition of standard practice in establishing salary schedules are directly or indirectly the principal causes of most of the unfavorable phases of the status of the rural teacher as brought out in this study.

TABLE 55.—*Relation between the years of education beyond the elementary school and salaries.*

Salary.	Years of education.									Total.
	0	1	2	3	4	5	6	7	8	
\$300-\$324.....	85	45	36	51	62	60	12	2		353
\$325-\$349.....	5	2		2	1					10
\$350-\$374.....	13	5	3	5	16	35	3			80
\$375-\$399.....	67	33	33	30	41	23	5	2		239
\$400-\$424.....	85	38	46	45	36	35	10	13	4	312
\$425-\$449.....	21	10	12	11	13	18	12	11	3	112
\$450-\$474.....	11	6	8	5	5	4	3	2		44
\$475-\$499.....	24	6	10	11	19	13	8	7	2	99
\$500-\$524.....	6	1	2	1	3	1	2	1		17
\$525-\$549.....	8	4	3	4	5	3	1	1		30
\$550-\$574.....	3	1	1	6	1		1			13
\$575-\$599.....	1	1	2	2	1			1		8
\$600-\$624.....	2	1		2		1	1			7
\$625-\$649.....										
\$650-\$700.....			1		1					2
Total.....	331	153	157	175	203	193	58	43	12	1,326

Median salary = \$398. Median years = 2.1.  $r=.04$ . P. E. =  $\pm .018$ .

## Chapter VIII.

### SUMMARY.

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1. This study of the status of the rural teacher in Pennsylvania is based principally on a questionnaire distributed among the teachers in the one-teacher rural schools of 18 counties of the State. Out of the 1,450 questionnaires returned, 1,110, or 76.5 per cent, were answered by women; and 340, or 23.5 per cent, by men, averaging 62 per cent of the teachers enrolled in the one-teacher schools in each county respectively. Pennsylvania, with 10,038 one-teacher schools, ranks third among all the States of the United States, being outnumbered by Illinois and Iowa. Over 53 per cent of the teachers under county superintendents' supervision are teaching in one and two teacher schools, of which 42 per cent are in the one-teacher schools. The number of one-teacher schools varies throughout the 66 counties from 22 to 361, with the median county having 150. These counties range in size from 130 to 1,200 square miles, but the number of square miles to each one-teacher school ranges from 2.4 to 17.8 square miles.

2. In analyzing the *social and economic status* of the rural teacher it has been found that the percentage of men teachers, 24 per cent as compared with 76 per cent of women teachers, is greater in Pennsylvania than in any State of the Union for which there are data available, and greater than in the United States as a whole. The average age of beginning teachers is 19.2, but the ages of teachers range from 18 to 65, with an average of 22 years for women teachers, and of 26.7 for men teachers. Eighty-one per cent of the rural teachers are born and reared in the country districts and 19 per cent in boroughs and cities. One-half of the teachers participate on Saturday and Sunday in the social life of the community in which they are teaching.

Sixty per cent of the teachers pay for board and room amounts ranging from less than \$50 to more than \$250, with an average cost of \$121 per year. On a monthly basis the average cost is \$16, with the lowest amount \$6 and the highest \$30 or more per month. Only 9 per cent of the teachers are obliged to meet these living expenses for the entire calendar year. These facts substantiate the prevalent belief that living expenses for rural teachers are on a much lower scale than those of urban teachers.

Twenty-five per cent of the teachers, of whom most are men, receive an income of \$200 or less, in addition to their teaching salary. It is rather surprising that approximately 40 per cent of the teachers have saved on an average approximately \$100 per year from their meager salaries. Among this thrifty group are included the small percentage who carry life insurance and are members of beneficial associations, expending as dues from \$5.20 to \$150 per year. Practically all in this group subscribe for educational magazines and reference books in amounts from \$0.50 to \$50 per year.

3. Investigation of the *working conditions* of rural teachers shows that their schools range in size from 3 to 68 pupils, with an average of 26. The number of grades varies from 2 to 10, with the median falling among the group having 7 grades; however, 41.8 per cent of the schools are organized as eight-grade schools. The median number of class recitations is 25.6, varying from 9 to 50 per day; and 25 per cent of the teachers have school programs of 30 or more recitations per day. The data clearly indicate an extremely low correlation between the number of class recitations per day and



the number of pupils enrolled, showing that a great proportion of the smaller schools are among the group having the larger number of daily recitations.

Only 31 per cent of the schools have libraries containing from 10 to 400 volumes, but 43 per cent of the rural teachers have access to libraries apart from the school library, for obtaining books and materials to aid them in their teaching. Since teachers in Pennsylvania are obliged to attend county institutes, it is quite surprising that 72 per cent voluntarily attend regularly the county local institute intended to help train teachers in service. Furthermore, as stated previously, teachers subscribe generally for educational and other current magazines of the type listed in Table 18 of the context.

The fact that rural teachers are supervised only from 15 minutes to 8 hours per school year and that the superintendent makes on an average one visit each year of from 30 minutes to one hour shows plainly that one of Pennsylvania's greatest needs is such a complete revision of the system of rural school supervision as shall involve much greater supervisory assistance. It should be recalled that county superintendents have no assistance in their work unless they have 200 or more teachers under their jurisdiction. In the counties that have assistant county superintendents, the average time spent by them in visiting each school, in addition to that spent by the county superintendent, is 2 hours per year. According to the statement of 69 per cent of the teachers, one or more school directors have visited their schools at least once during the year. Upon the impression gained from this visit frequently depends the election or reelection of a teacher, since, according to the replies of 70 per cent of the teachers, little or no consideration is given by the directors to the judgment of county or assistant county superintendents.

There seems to be very little community cooperation in the rural districts, as evidenced by the fact that only 28 per cent of the teachers reported the existence of parent-teacher organizations or any other type of community activity in connection with their schools. Since, in addition to this, very few patrons or residents of the various school communities take any interest in the schools, it would seem that a vital need in the rehabilitation of the rural schools is the development of an increased support and of a more sympathetic interest not only in the personal welfare of the teachers on the part of patrons and citizens, but also in the teacher's professional status and opportunities for growth on the part of administrative and supervisory officers.

4. In summarizing the *academic and professional training* of rural teachers, Pennsylvania has a very low standing in comparison with other States. Eighty per cent of the teachers received their elementary education in township schools in periods of 5 to 12 years, and the remaining 20 per cent in boroughs from 5 to 11 years, the average length being 68.2 months and 70.8 months, respectively, on the basis of the average length of school year for townships and boroughs. Thirty-nine per cent of the same group of teachers had had no training in a secondary school; and of the 61 per cent who attended secondary schools, only 22 per cent completed a four-years' course. It should be stated that some of the teachers who had never attended a recognized secondary school had received some academic instruction in high-school subjects given in the ninth and tenth grades in one-teacher elementary schools.

As to the professional training of this group of teachers, 76 per cent had no normal school training, and of the remaining 24 per cent attending a normal school for periods ranging from 6 weeks to 4 years in length, only 18 per cent completed the course. The extreme variations in preliminary training, evidenced from the fact that 55 per cent of the normal school graduates had not had secondary training, as well as the varied amount of time actually spent by teachers in preparation in normal schools, are largely due to the normal school system, which for a number of years received students with all types of training from the completion of an elementary school course to that of a standard four years' secondary course.

As regards further training during service, 62 per cent have had no academic or professional schooling since entering the profession. Of the 38 per cent who had such supplementary education 10 per cent attended summer private academies, 8 per cent summer local or county normal schools, 12 per cent summer State normal schools, and 6 per cent summer colleges, all ranging from one to four terms of six weeks' duration. The determining factor in the selection of an institution was found to be the type of certificate held and the institution most accessible.

Since only 13 counties have State normal schools within their boundaries, and since the 53 remaining counties must depend in a large measure upon private academies and summer county or local normal schools to provide opportunities for teacher training, it is evident that one of the pressing problems before the State is the provision for properly organized training facilities in high schools, in county training schools, or in additional State normal schools, if the supply of educationally and professionally trained teachers shall in any way meet the demand in the rural districts.

5. Regarding the *certification* of rural teachers in Pennsylvania, there is undoubtedly need for more exacting certification laws, as well as for the establishment of a larger number of accredited teacher training institutions. In 1919-20, on the basis of a study of the directories of 28 counties, including all the teachers, the percentage of the various types of certificates held by teachers in one-teacher schools is as follows: Provisional 52, professional 24, permanent 10, and normal school 14, with such extreme variations among counties as 19 to 73 per cent in the case of provisional certificates; 2 to 40 per cent, professional certificates; 1.9 to 36 per cent permanent certificates; and 0.5 per cent (1 out of 179 teachers) to 68 per cent (147 out of 216 teachers) normal school certificates. The data further emphasized the fact that 76 per cent of the teachers hold provisional and professional certificates, obtained through examinations given exclusively by the 66 county superintendents of the State.

In the two and more than two-teacher schools, 25 per cent of the teachers hold normal-school certificates, and 32 per cent provisional certificates, in contrast with the 14 per cent and 52 per cent, respectively, in the one-teacher schools in the same counties. This inequitable distribution of the qualifications of teachers, as evidenced by certificates, is still further emphasized in the fact that 58 per cent in the borough elementary schools of the same counties are normal-school graduates, while only 6 per cent of the teachers hold the provisional—the lowest type of certificate.

Examination of the certificate situation of five typical counties over a period of three years, 1917-1919, showed a tendency toward marked increase in the number of provisional certificates and a consequent decrease in the number of normal-school certificates, in spite of the fact that the county showing the largest decrease in normal-school graduates had a normal school located within its boundaries.

The median experience of the teachers on the basis of their certificates is for provisional certificates 0.9 year, for normal-school certificates 4.5, for professional certificates 4.9, and for permanent certificates 15.9 years. From the standpoint of age, the average for teachers holding provisional certificates is 20.3 years, professional, 24.8 years, normal school, 23.9 years, and permanent, 37.3 years.

In considering the certificates of the teachers on the basis of their academic and professional training, the largest proportion of those holding permanent and normal-school certificates or diplomas have had no training in secondary schools. Of the number completing a four-years' course in a secondary school, the largest proportion hold provisional certificates and only 6 per cent have obtained permanent or life certificates.

6. The *experience* of teachers in the one-teacher rural schools averages 3.7 years, ranging from the "beginner" to the one having had 55 years of teaching service. The average experience for men teachers is 7 years, and for women teachers 3.2 years. The investigation also showed that the average number of places taught by the entire group is 3, and that 24 per cent taught in from 5 to 20 different schools. The correla-

tion between the number of places taught and the years of experience was found to be very high, namely  $r=.79$ .

The facts concerning the stability of the teaching force for the entire State over a three-year period indicate that in the 10,000 one-teacher schools, 4,100 would have three different teachers, 4,400 one teacher for two years and one teacher for one year, and only 1,500 one teacher over the entire three-year period. This unusually high proportion of instability of the teaching corps should receive the serious and immediate attention of the educational leaders of the State.

In examining the teachers' directories of 18 counties of the State for 1919-20, 30 per cent of the 2,640 teachers in one-teacher schools are "beginners," and 37 per cent of the teachers, while experienced, are now teaching in a new position, making a total of 67 per cent of the one-teacher schools of these counties with either an experienced teacher in a new position or a new teacher without any teaching experience. On the other hand, in the two-teacher schools of the same counties, only 12 per cent are new teachers without any experience and 33 per cent are experienced teachers in a new position. This again demonstrates the tremendous handicap of the one-teacher schools as compared with the other types of schools under county supervision.

On the basis of the facts in this study and of others referred to in this monograph, the schools of Pennsylvania will require each year to meet their needs between 5,000 and 6,000 new teachers. From the fact that normal-school principals tell us that on an average only 15 per cent of their graduating classes enter one-teacher rural schools, it is evident that, on the basis of 2,000 State normal-school graduates, there are only approximately 300 trained teachers available to fill the 3,000 vacancies in one-teacher schools. Surely it is most imperative that additional training facilities as well as a full capacity of the State normal schools now in existence must be provided, or the vacancies throughout the State will necessarily have to be filled with an inadequate and poorly trained teaching force.

7. According to the data for the year 1918-19, the *salaries* of the teachers in one-teacher schools averaged \$411, while those of teachers in two and more than two-teacher schools averaged \$519. This difference of \$109 in salary between the one teacher and two and more than two-teacher schools frequently occurs in the same township under the same board of education, thus specifically indicating the great inequalities in the educational conditions and in teacher standards existing in these types of schools. The median salary of borough teachers in the same counties is \$588, which is \$69 higher than the median salary, \$519, paid to teachers in the two and more than two teacher schools, and \$177 higher than the median salary, \$411, paid to the teacher in the one-teacher schools. This salary situation explains at least in a large measure the instability of the teaching force among the smaller villages and rural districts.

The length of school term, always a determining factor in explaining teachers' salaries, was found to average in townships 7.6 months, and in boroughs, 8.6 months. The minimum school term of 7 months required by law exists in 58 per cent of the townships, and in only 11 per cent of the boroughs. The significance of these data is that the teachers in the one-teacher schools receive on an average \$14 per school month less than the teachers in the two and more than two-teacher schools in the same townships with the same length of school term, and frequently controlled by the same board of education. It would seem that these facts furnish a strong argument in favor of some scheme for equalizing educational standards. This might be brought about by an equitable salary measure for the rural teachers in the one-teacher schools, such as the "bonus" scheme as recognized in the Wisconsin salary law and to some degree in the Woodruff salary bill for Pennsylvania, or by some radical change in the form of unit of administration, such as a county-local unit with more centralized control over local units, or a county unit with a small county board of education. In 75 per cent of the cases school boards pay teachers the minimum salary required by

law and do not seem to recognize the academic or professional training of teachers either before entering service or while in service. In increasing salaries their main consideration is apparently such mandatory legislation as the kind of certificate held and the minimum salary law. In only 10 per cent of the cases was it reported that school boards considered such factors as experience and efficiency in placing teachers and determining salary schedules.

The correlation between years of experience and salaries of men and women teachers was found to be very low: namely,  $r=.20$  and  $r=.20$ , respectively, indicating that teachers receiving, for example, a salary of \$420 might have from no experience to 50 years of experience and at the same time teachers with two or three years of experience received salaries from \$315 to \$700. The fairly low correlation of the number of increases in salary to the number of years of experience offers further proof that experience is practically an insignificant factor.

These findings are a recapitulation or a summary of the outstanding facts concerning the different phases of the status of the rural teachers. It should be kept in mind that it was not primarily the purpose of this survey to offer remedial or constructive measures in the solution of the problems revealed by the investigation but rather to make such observations and suggestions as the evidence safely warrants. It will, however, serve its purpose if the facts and conclusions set forth, and the methods used in establishing their reliability, will help constructively to solve one of the greatest problems in the field of American education—the problem of the rural school.

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DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1921, No. 35

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# THE WORK OF THE BUREAU OF EDUCATION FOR THE NATIVES OF ALASKA

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in the United States, 1918-1920]



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## THE WORK OF THE BUREAU OF EDUCATION FOR THE NATIVES OF ALASKA.

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**CONTENTS.**—Extent of territory—Supervision—Control of expenditures—Nature of the work—Colony building—Sale of native commodities—Recent epidemics—Transportation—Census of Alaska—Reindeer service.

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The work of the Bureau of Education for the natives of Alaska includes the Alaska school service, the Alaska medical service, and the Alaska reindeer service, with a field force in Alaska, in 1920, of 6 superintendents, 133 teachers, 9 physicians, and 13 nurses.

The work is of vast extent, and it is carried on under peculiar difficulties. If Alaska were superimposed on the United States, its northernmost cape would be on the boundary between the United States and Canada, its southeasternmost extremity would touch the Atlantic coast at the State of Georgia, the Aleutian Islands would skirt the Mexican border, and the westernmost of its islands would lie in California. The 67 villages in which the bureau's work is located would fall in 21 different States.

Some of the villages on remote islands or beside the frozen ocean are brought into touch with the outside world only once or twice a year, when visited by a United States Coast Guard steamer on its annual cruise or by the supply vessel sent by the Bureau of Education. Many of the settlements have no regular mail service and can communicate with each other and with the outside world only by occasional passing boats in summer and sleds in winter. During eight months of the year all of the villages in Alaska, with the exception of those on the southern coast, are reached only by trails over the snow-covered land or frozen rivers.

### SUPERVISION.

The regulations governing the work of the Bureau of Education in Alaska permit the greatest freedom of action on the part of the local employees that is consistent with the ultimate responsibility of the Commissioner of Education.

The entire work is under the direction of Mr. W. T. Lopp, superintendent of education of natives of Alaska, whose headquarters are in Seattle, which is more readily accessible to all parts of Alaska than is any point within the Territory itself. The Seattle office of

the Alaska division also functions as a purchasing and disbursing office for the service.

The Territory has been divided into six school districts, each under the immediate supervision and direction of a district superintendent. One of these supervision districts contains fully 100,000 square miles. In visiting the widely separated schools a district superintendent must travel vast distances by sled over the frozen, trackless wilderness; frequently he must risk his life on treacherous, tempestuous waters in a native canoe or small power boat; he must endure the violence of the northern storms, the rigors of the Arctic winter, and the foulness of the native huts in which he must often find shelter.

### CONTROL OF EXPENDITURES.

At the beginning of each fiscal year the Commissioner of Education distributes to the purchasing agent in Seattle and to the superintendents, from the appropriation made by Congress for the support of the work, definite sums for the purchase of supplies, furniture, equipment, and fuel; for the payment of rental; for furnishing medical relief to the natives; for the relief of destitute natives, and for the payment of traveling expenses. In like manner, from the authorizations received by them from the Commissioner of Education, the superintendents distribute to the teachers, physicians, and nurses in their districts "subauthorizations" to enable them promptly to make expenditures for local needs. Except in grave emergency, no expenditure is permissible unless it is covered by an authorization or by a subauthorization. By this method of distributing funds each superintendent and teacher is enabled to meet, within the limit of expenditure authorized, every need of the service as it arises. The effectiveness and scope of the work are limited only by the amounts of the appropriations made by Congress.

### NATURE OF THE WORK.

The work is carried on for the benefit of adults as well as for children. In the Alaskan native community the school is the center of all activity—social, industrial, and civic. Each schoolhouse is a social center for the accomplishment of practical ends. Many of the buildings contain, in addition to the recitation room, an industrial room, kitchen, quarters for the teacher, and a laundry and baths for the use of the native community. The schoolroom is available for public meetings for the discussion of the affairs of the village or, occasionally, for social purposes. In the schoolroom the endeavor is made to impart to the children such instruction as will enable them to live comfortably and to deal intelligently with those with whom they come in contact; instruction in carpentry, house building, cook-

ing, and sewing is emphasized. In some sections the natives have been taught to raise vegetables, which provide a healthful addition to their usual diet of fish, meat, or canned goods.

In the villages the teachers and nurses endeavor to establish proper sanitary conditions by inspecting the houses, by insisting upon proper disposal of garbage, and by giving instruction in sanitary methods of living. Natives are encouraged to replace their primitive huts by neat, well-ventilated houses. Cooperative enterprises, financed by native capital and conducted by the natives themselves, are fostered. In many instances the school is the only elevating power in the native community.

Tuberculosis, pneumonia, rheumatism, and venereal diseases prevail to an alarming extent in many of the native villages. In its endeavor to safeguard the health of the natives of Alaska, the Bureau of Education maintains hospitals in five important centers of native population, employs physicians and nurses who devote themselves to medical and sanitary work among the natives in their respective districts, and provides medical supplies and textbooks to the teachers to enable them to treat minor ailments and intelligently to supervise hygienic measures. There are extensive regions in which the services of a physician are not obtainable. Accordingly, it often becomes the duty of a teacher to render first aid to the injured or to care for a patient through the course of a serious illness.

To be "teacher" in the narrow schoolroom sense is the least of the duties of a teacher in the Alaska school service; he is the friend, adviser, and inspirer of the natives in their struggle toward civilization.

### COLONY BUILDING.

For the protection of the natives and in order more effectively and economically to reach a larger number of natives than it could in the small, scattered villages, the Bureau of Education has secured the reservation by Executive order of carefully selected tracts in various parts of Alaska to which natives can be attracted and within which they can obtain a plentiful supply of fish and game and conduct their own commercial and industrial enterprises. Residence within these reservations is not compulsory; natives settling on the reservations are in no way hampered in their coming and going, nor is their status in any way changed by residence thereon. The object is to make these reservations so attractive from an economic and social point of view that natives will voluntarily come into them. Within the reservations it is possible to maintain better equipped and more efficient schools than can be provided for smaller villages, and to supervise cooperative stores and industrial enterprises maintained by the natives themselves. The settlements at Hydaburg,

Noorvik, and Metlakatla are conspicuous successes in colony building.

*Hydaburg.*—The locations of many of the native villages in southern Alaska were selected in ancient times when intertribal strife made strategic sites desirable. Several of these villages are not advantageously situated with regard to hunting and fishing grounds or for trading purposes. For these reasons there existed among the members of the Hydah tribe in the villages of Klinquan and Howkan a desire to migrate. Taking cognizance of this desire, representatives of the Bureau of Education selected as a site for a new village for the Hydahs a tract on an uninhabited bay on the shore of Prince of Wales Island, with abundant timber, fresh water, and game, and accessible to centers of trade. By Executive order a tract of approximately 12 square miles was reserved for the use of this colony and such of the natives of Alaska as might settle within the limits of the reservation.

In a fleet of canoes the people of Klinquan and Howkan migrated to the new site during September, 1911, taking with them their household goods and movable property. Under the leadership of the teacher, a clearing was made in the primeval forest; the school-house was the first building erected; neat log cabins followed, the Bureau of Education aiding in equipping the sawmill to provide lumber for the new village, to which the natives gave the name Hydaburg.

Under the guidance of the Bureau of Education during the following years the Hydaburg people, only a generation removed from savagery, have turned the dense forest into a thriving, well laid out, electrically lighted, self-governing town, with several miles of planked streets, a modern dock and float landing, a sawmill, a cannery building, church, cooperative store, shingle mill, and lumber yard.

The Hydaburg Trading Co. was organized in November, 1911, to transact the mercantile business of the settlement and to operate the sawmill. When the books were audited 12 months later, \$4,020 had been subscribed in stock. On June 30, 1920, the capital stock of the company was \$40,000; merchandise inventoried at \$20,000. The sales of lumber from February 1 to June 30, 1920, amounted to \$6,000. The company owns a store building worth \$10,000, a sawmill valued at \$9,500, a cannery building and dock at \$6,000, a moving-picture outfit, an automobile truck, and equipment for electric lighting.

In 1911 the par value of a share in the Hydaburg Trading Co. was \$10. In 1920 the total accumulation on each share, including the stock dividend and the purchase dividend each year, amounted to \$244.28. This success is in large measure due to the fact that, through the teacher, the Bureau of Education exercises rigid supervision over

the transactions and accounts of the company. An accountant from the Seattle office of the Alaska division of the Bureau of Education makes the annual audit.

*Noorvik*.—With their advancement in civilization the Eskimos living at Deering, on the bleak coast of the Arctic Ocean, craved a new home. Lack of timber compelled them to live in the semiunderground hovels of their ancestors, while the killing off of game animals made it increasingly difficult to obtain food. An uninhabited tract on the bank of the Kobuk River, 15 miles square, abounding in game, fish, and timber, was reserved by Executive order for these Eskimos, and thither they migrated in the summer of 1915. On this tract, within the Arctic Circle, the colonists, under the leadership of the teachers, have built a village, which they have called Noorvik, with well laid-out streets, neat single-family houses, gardens, a mercantile company, a sawmill, an electric-light plant, and a radio station, which keeps them in touch with the outside world.

*The Metlakatla Colony*.—In 1857 William Duncan, of Yorkshire, England, was sent by the Church Missionary Society, of London, as lay missionary to the Indians near Fort Simpson, British Columbia. In course of time Mr. Duncan raised this tribe from barbarism and founded for them a prosperous village, named Metlakatla, with church, store, sawmill, and cannery. Disagreements with the Church of England on religious matters and with the Canadian Government on the ownership of land caused the natives under Mr. Duncan's guidance to consider migrating to Alaska. During the winter of 1886-87 Mr. Duncan visited Washington and conferred with the President, members of the Cabinet, and other prominent men in regard to the proposed migration. Encouraged by the interest shown by the officials in Washington, almost the entire colony of about 900 migrated in August, 1887, to Annette Island, where they built a new Metlakatla. In 1891 Congress reserved Annette Island, in southern Alaska, for the Metlakatlans and such Alaskan natives as might join them.

In 1891 Mr. Duncan organized the Metlakatla Industrial Co. to carry on the industries of the colony. In 1905 Mr. Duncan repaid to the natives and to the philanthropists the money invested by them, with interest; the company was dissolved, and Mr. Duncan remained in sole control. The operations of the cannery and sawmill were curtailed, and in 1913 they were closed. Lacking employment in Metlakatla many natives left the island, and the colony deteriorated.

The cogency of petitions for the establishment of a United States public school in Metlakatla, and personal investigation of the situation by the governor of Alaska and by the Commissioner of



Education, resulted in 1913 in the establishment by the Bureau of Education of a school in Metlakatla. The resuscitation of the industries followed.

In 1917 the Secretary of the Interior, on behalf of the Metlakatians, entered into a five-year lease with the Annette Island Packing Co., of Seattle, granting fish-trap privileges within the reserved waters adjacent to Annette Island, and permission to erect and operate a cannery within the reserve. The returns to the Metlakatians for fish royalties, trap fees, labor, and for lumber purchased from the local sawmill amounted in 1919 to \$90,032.88. It is expected that in 1921 the revenues from the lease will enable the Secretary of the Interior to take over for the Metlakatians the property of the lessee within the reserve. The Metlakatla Commercial Co., organized by the Bureau of Education, conducts the mercantile business of the settlement and operates the sawmill.

Under regulations issued by the Secretary of the Interior, the local government of the colony is vested in a council of 12, elected annually. The religious affairs are under 12 elders, selected by the people.

#### SALE OF NATIVE COMMODITIES.

Formerly it was possible for the Eskimos on the shores of Bering Sea and the Arctic Ocean and in other remote regions of Alaska to dispose of their valuable furs, ivory, and whalebone only to the local traders, with the result that the natives usually received low prices for their commodities, and were constantly in debt to the local traders. Availing themselves of the parcel-post service and of the increased opportunities to send freight, many Eskimos who have been educated in the schools now forward packages of fox, lynx, and mink skins, and ivory and whalebone to the office of the Alaska division in Seattle, which, through the Seattle Fur Sales Agency, sells the furs at public auction, in accordance with the rules governing such sales, with the result that many natives are now receiving full value for their goods. The proceeds of all sales are sent to the individual natives, applied to the settlement of their accounts with the Seattle merchants, or placed to their credit in savings banks, as requested; and detailed account is kept of all transactions. The vessel which makes the annual delivery of supplies to settlements along the Arctic coast of Alaska carries many tons of food supplies, packages of clothing, household goods, and building materials, purchased with the proceeds of the sale of furs and other commodities sent out by the natives during the previous summer. All transactions in connection with these sales, purchases, and shipments were originally carried on under the general oversight of the chief of the Alaska division of the Bureau of Education, acting as a private individual. This

philanthropic action, inaugurated as an emergency measure, has received official sanction by the Department of the Interior and has been made part of the official duties of the chief of the Alaska division, who is under bond for the faithful performance of the same.

### RECENT EPIDEMICS.

In October, 1918, following the line of steamship transportation from Seattle, influenza broke out in the coast towns of Alaska and rapidly spread to the interior settlements. Furnishing medical relief to the native races of Alaska is a duty of the Bureau of Education, but in the great emergency created by the epidemic the bureau could not, by itself, effectively cope with the situation. Gov. Riggs, therefore, as executive head of the Territory, accepted the responsibility of directing the fight against the disease and took immediate, energetic, and effective action to check its ravages among the native races of Alaska, as well as among the white people.

The Surgeon General of the Public Health Service authorized Gov. Riggs to employ physicians and nurses and to purchase medicines. As a sufficient number of doctors and nurses could not be had in Alaska, 19 physicians and 3 nurses were secured in the State of Washington and sent to southern Alaska on the naval collier *Brutus*. All of the bureau's physicians, nurses, superintendents, and teachers were placed at the governor's disposal and rendered zealous service in fighting the epidemic in the native villages. White people throughout the Territory cooperated heartily. The assistance of the Red Cross was also secured.

The epidemic was especially severe in the Nome and St. Michael regions, where it resulted in the death of at least 850 natives. Among the victims of the epidemic were Mr. Walter C. Shields, who for many years had been superintendent of the work of the bureau in northwestern Alaska; Dr. Frank W. Lamb, physician in charge of the bureau's hospital at Akiak; and Mrs. Harriet T. Hansome, assistant teacher at Hydaburg.

In May, 1919, influenza made its appearance among the Eskimos in the Bristol Bay region and among the Aleuts at Unalaska. As in the previous epidemic, vigorous measures were at once taken to combat the disease, the Navy Department sending the *Unalga*, the *Bear*, the *Vicksburg*, and the *Marblehead*, with physicians and nurses, to the stricken districts. In the Bristol Bay region the epidemic caused 440 deaths and in the village of Unalaska 45 deaths. As the result of these epidemics about 250 children were left orphans. In the Nome region it was found possible to distribute the orphans among Eskimo families, but in the Bristol Bay and Cook Inlet districts it was necessary for the bureau to assume their entire care in orphanages which were erected at Kanakanak and Tyonek.

### TRANSPORTATION.

The 67 villages in Alaska in which the work of the Bureau of Education is carried on are scattered along thousands of miles of coast line and on the great rivers. Very many villages are not on the routes of commercial vessels. Some of the settlements can be brought into touch with the outside world only during the short season of open navigation in midsummer. The securing of transportation from Seattle to their remote destinations of teachers, physicians, and nurses, and of the supplies and building materials required in the Alaska school service, the Alaska medical service, and the Alaska reindeer service is an undertaking of great difficulty. The problem was acute during the summer of 1919, transportation to and in Alaska being in a chaotic condition as the result of war conditions and because vessels carrying freight for western and northern Alaska had left Seattle before the passage of the appropriation for the support of the work of the Bureau of Education in Alaska. Even on the established routes rates were excessive and steamers were unable to maintain their time schedules; there were long delays of passengers and freight at transfer points; in several instances expensive emergency transportation of employees and supplies had to be secured. For a long series of years the Coast Guard Service, through its vessels cruising in Alaskan waters, has willingly cooperated with the Bureau of Education, but its vessels are not adapted to the carrying of passengers and freight and they have numerous other duties to perform.

Experience has shown that the work of the Bureau of Education in Alaska can never be administered effectively and economically until the bureau owns and controls its own vessel. Request was therefore made to the Navy Department for a vessel suitable for use by the Bureau of Education in connection with its work in Alaska. Complying with the request, the Navy Department transferred to the Department of the Interior the U. S. S. *Boxer*, a stanch, wooden vessel, with a carrying capacity of about 450 tons, and admirably adapted for the purpose contemplated. The endeavor to secure a congressional appropriation to meet the expenses of refitting the *Boxer* for service in Alaskan waters did not meet with success. The vessel is held at the Naval Training Station, Newport, R. I., pending the securing of an appropriation.

### CENSUS OF ALASKA.

The vast extent of the Territory, the remoteness of many of the settlements, and lack of transportation facilities make the taking of the census of Alaska a matter of great difficulty. At the request of the Bureau of the Census, Mr. W. T. Lopp, superintendent of

education of natives of Alaska, was placed in charge of the entire work of the Alaska census of 1920, with the bureau's superintendents, physicians, and teachers in all parts of the Territory as special agents and enumerators. This cooperative arrangement, while greatly increasing the duties of the bureau's employees during the year, proved to be mutually economical and advantageous.

### REINDEER SERVICE.

The greatest work for the natives inhabiting the northern and western parts of Alaska has been the introduction and development of the reindeer industry.

Until 1892 there were no reindeer in Alaska. The industry began in that year with the importation by the Bureau of Education and the Revenue-Cutter Service of 171 reindeer from Siberia, which were bought with funds secured by Dr. Sheldon Jackson from benevolent individuals. The importation continued until 1902; during that period 1,280 reindeer were brought over. There are now approximately 180,000 reindeer in Alaska, distributed throughout the coastal regions from Point Barrow to the Alaska Peninsula. Two-thirds of these reindeer, representing a value of \$3,000,000, are the property of the natives.

The raising of reindeer is the form of industrial education best adapted to the Eskimos inhabiting the limitless grazing lands of arctic and subarctic Alaska, and in the early stages of the enterprise the reindeer service became an integral part of the educational system of the Bureau of Education for those regions. The district superintendents of schools are also superintendents of the reindeer service; the teachers in charge of the United States public schools in the regions affected by the reindeer industry are ex officio local superintendents of the reindeer herds in the vicinity of their schools. The reindeer are distributed by a system of apprenticeship, promising and ambitious young natives being selected by each local superintendent as apprentices for a term of four years, receiving at the end of each year the number of reindeer prescribed by the regulations governing the service. Upon the satisfactory termination of his apprenticeship the apprentice becomes a herder and assumes entire charge of his herd, subject to the supervision of the district and local school authorities. In accordance with the regulations, the herder must in turn employ apprentices and distribute reindeer to them, thus becoming an additional factor in the extension of the enterprise. In order to safeguard the reindeer industry for the natives, the regulations forbid the disposal of female reindeer to others than natives of Alaska.

The object of the importation was originally to furnish a source of supply for food and clothing to the Alaskan Eskimos in the vicinity

of Bering Strait, nomadic hunters and fishermen, eking out a precarious existence upon the rapidly disappearing game animals and fish. Within less than a generation the reindeer industry has advanced through one entire stage of civilization, the Eskimos inhabiting the vast grazing lands from Point Barrow to the Aleutian Islands; it has raised them from the primitive to the pastoral stage; from nomadic hunters to civilized men, having in their herds of reindeer assured support for themselves and opportunity to accumulate wealth.

The magnitude and value of the reindeer industry have resulted in the making by Congress of an appropriation to enable the Bureau of Biological Survey, Department of Agriculture, in cooperation with the Bureau of Education, to make investigations, experiments, and demonstrations for the improvement of the reindeer industry in Alaska. The distribution of reindeer among the natives and the use of the enterprise as the form of industrial education best adapted to the races inhabiting the untimbered regions of Alaska will remain under the supervision of the Bureau of Education.

In making its public schools centers of social, industrial, and civic life in the native villages of Alaska, the Bureau of Education took pioneer action in making an educational agency reach an entire community.

The establishment of the Alaska reindeer service was the earliest governmental action providing, by the introduction of a new industry, practical vocational training, adapted to community needs, guaranteeing assured support, and resulting in training a primitive race into independence and responsible citizenship.



DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1921, No. 36

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# MAJOR PROJECTS IN ELEMENTARY SCHOOLS

By

FLORENCE C. FOX  
SPECIALIST IN EDUCATIONAL SYSTEMS  
BUREAU OF EDUCATION



WASHINGTON  
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## FOREWORD.

How shall a project be organized so that the subjects in the school program shall properly function and shall contribute to the effective working out of the central idea around which the project must concentrate? How shall an untrained teacher be able to formulate her subject matter in terms of projects unless she understands the function of each subject?

An attempt is made in the first chapter of this bulletin to outline the proper function of each subject "according to its relative and absolute educative value" and to indicate what the child's natural reaction to this material becomes in his educative process when it is organized in terms of projects. The second chapter deals specifically with a series of projects which have been worked out in several elementary schools according to the fundamental principles laid down in Chapter I.

But one type of project is considered in this discussion, the major project, which, in educational parlance, has come to mean a unit of study around which the work of the school shall center for a given length of time and shall include all the activities of the school during that period. Such a study creates a demand for reading, writing, language, and number, and presents many opportunities for the use of drawing, modeling, making, and sand-table building. It provides for contracts and cross connections between all the subjects of study and presents a vital, integral unit for the work of the school. The minor project deals with some lesser question which may grow out of the major project or which may be suggested in the assignment of the daily recitation. It is more individual in character than the major project and often is little more than a related problem in a subject of study.

A distinction is readily made in this connection between a project which deals with a real situation in the child's experience and the act of playing through such an experience in the schoolroom. The first is based upon the child's direct contact with some activity in his immediate environment from which he gains those impressions that are used as a basis for study and for reproduction. The play project may come to him through the medium of actual experience, but it is developed and carried on in the realm of imagination and supposition.

# MAJOR PROJECTS IN ELEMENTARY SCHOOLS.<sup>1</sup>

## Chapter I.

### THE ORGANIZATION OF SUBJECT MATTER IN TERMS OF PROJECTS.

Elementary teachers hear much to-day regarding the child's interests and experiences as bases of their work. Just what does this mean, the child's experiences, and how may they become the dominating idea in elementary education? What are the child's interests and experiences? What are they before he enters school, what are they now with his added school experience increasing day by day, and what are they destined to become as we look toward the future through the next year, and the next, and for many years to come? A great educator has said: The child's home is of paramount interest to him; he is interested in the brute life about him; he loves the flowers; the passing of the seasons and the changing phases of nature affect him; pebbles and stones; the forces of nature, wind and rain and heat and cold; growth of plants in garden and field—all these come within the realm of his daily observation and experience.

These interests and experiences have been classified in the outline given below as central subjects and include science, geography, civics, history, and literature. Here within these central subjects lies our opportunity for educative material upon which to base our projects. Anything less than these is unworthy. The method of presentation is suggested by the remaining sections of the outline. Impressions are received by the child through the modes of attention: Observation, hearing language, and reading. These impressions are reproduced by him through the modes of expression: Gesture, music, making, modeling, painting, drawing, speech, and writing. Finally these impressions are made definite and real to the child through the modes of judgment: Form and number; their adequacy depends upon his ability to visualize the elements of form and proportion in his mental picture.

#### *Organization of subject matter.*

	I. Central subjects.	II. Modes of attention.	III. Modes of expression.	IV. Modes of judgment.
The child's relation to..	Science. Geography. Civics. History. Literature.	Observation. Hearing language. Reading.	Gesture. Music. Making. Modeling. Painting. Drawing. Speech. Oral reading. Writing.	Form. Number.

I. The central subjects representing the child's interests and experiences.

II. The modes of attention through which the child receives his impressions of the central subjects.

III. The modes of expression by which the child reproduces his impressions of the central subjects.

IV. The modes of judgment by which the child measures his impressions of the central subjects.

elementary schools in this bulletin refer to the first six grades.

Here we have concentration and the unification of thought and expression. "Each subject, means, mode, and method finds its absolute and relative educational value, its definite place in conditions for self-activity and self-effort." No teacher can wander far afield with a classification of this kind in her mind when she essays to organize her subject matter into units of study and to use the project method as a basis of her work.

But unless she does build around a central subject, unless she knows that silent reading is a mode of attention and not a subject of study, unless she realizes that oral reading is a form of speech, a mode of expression, not a subject of study; unless, in other words, her subject matter functions "according to its relative and absolute educative values," she will find her project falling about her ears like a house of cards and she will return to the beaten paths with which she is familiar and will continue to hinder the spontaneous growth of the child by misusing and perverting the educative function of the subjects in her daily program.

Here, then, is a measure by which to gauge the educative process and upon which to build our schoolroom procedure. Great minds have contributed to this organization of subject matter—Herbart, Froebel, our own educational reformer, Col. Parker, and many others. It remained for Col. Parker to take the best from this system of educational philosophy and to found a school in which the theory might be tried and tested by actual schoolroom practice. For 20 years it has been successfully practiced in many schools in this country. Just now it is receiving a new impetus, and fortunate are the children who are entering school next year that recognition is more and more being given to the greatest educational movement of our times. That it requires study and preparation on the part of the teacher and that its limits are expressed by her education, training, and a professional perspicuity there is no doubt. If we wish to carry on this great movement, we must understand the child's attitude toward the life about him and in what particular way the environment that surrounds him can be made to function in his education.

## THE FUNCTION OF SUBJECT MATTER "ACCORDING TO ITS RELATIVE AND ABSOLUTE EDUCATIVE VALUE"—SOURCES OF IMPRESSION.

### I. CENTRAL SUBJECTS.

#### SCIENCE, GEOGRAPHY, CIVICS, HISTORY, AND LITERATURE.

##### SCIENCE.

*Field excursions and experiments.*—The lesson in science usually takes the form of nature observations in the early grades and is developed from the child's unconscious observation out of school. Later these lessons are based upon his more conscious study of nature on a field trip or from specimens brought into school rooms for study or enjoyment. All of the interests and experiences which these contacts arouse should be considered by the teacher in her search for centers of study and for themes upon which to base her projects.

Excursions in the field and experiments in the schoolroom should form a large part of the plan for these lessons. The experiment often supplements the experience gained in the field and clarifies the somewhat vague and in-

definite impressions which are apt to result from an excursion. It coordinates and conserves the experience and helps the pupil to form a definite, tangible premise upon which to build a future inference or conclusion. The value of a field excursion may be increased, in the middle grades particularly, if the class is prepared for a definite line of observation, with the teacher close at hand to direct and participate in the investigations. Some of this period, undoubtedly, should be free for the exercise of individual and group interests, perhaps wholly unrelated to the class experience, and these may develop later into valuable material upon which to base an individual or a group project.

*The garden.*—In the making of a garden there are many opportunities for lessons in science and geography. It opens a way for field lessons in which to collect specimens of soils and to conduct a series of experiments which shall determine their power to retain moisture and their capillarity, leading out to the practical questions of irrigation and dry farming. It calls for visits to different garden plots in the vicinity, on high ground and on lower levels, and for walks in the country where systems of drainage have redeemed the swampy land and prepared it for cultivation.

Then there are kindred subjects related to the garden. How many and how vital they are: Bird boxes in the garden; What to do with the English sparrow; How is this little savage of bird life responsible for the depredations of the Tussock moth? The household cat and his relation to the fruit trees in the garden; The economic value of the American toad; and so on through many phases of these natural phenomena.

Pertinent questions, logical reasoning, enthusiastic responses, cooperation, and sympathy are some of the values of these lessons. Much more than garden making and plant study are developed. Ideals of usefulness, of thrift, and of industry are unconsciously absorbed which shall fix irrevocably a higher standard of living.

*Mechanics.*—In the middle grades the problems of construction begin to assume an interest in the child's life. Out of these interests many individual projects may be developed with the aid of materials like the Erector models, construction blocks, and Meccano parts to supplement the observations made during the field lessons. Automobile construction is close to the child's experience, and how to change a tire is one of the most practical problems he can master in these days of horseless carriages. Farm machinery, the tractor, harvester, reaper, and binder; the building of houses, with their problems of heating, lighting, plumbing, and ventilation, offer subjects of absorbing interest in mechanics, electrical appliances, and sanitation to children in these grades. The bridge which the child crosses on his way to school, the railroad track under the bridge, and the engine passing and repassing at his feet stimulate him to inquiry, and research, and experimentation.

Lessons on food and clothing, which include subjects like cotton and wool, wheat and milk, lead out into a study of the problems involved in the manufacture of textiles, and the principals of mechanics which are utilized in the steam-roller processes in our large flouring mills. The study of farm animals and agriculture begun in the lower grades logically follow. Milk offers a wide field of study through lessons in modern methods of dairying, the construction of silos and dairy barns, of motor churns, cream separators, and cheese presses. The sterilization of dairy utensils and the process of milk pasteurization, as lessons in chemistry, bear the closest relation to the child's health and well-being, and may be woven into our plans for projects as we look for subjects in science which hold an absorbing interest for the child.

## GEOGRAPHY.

The child's immediate environment is the right material for his projects in early geography lessons. This subject goes hand in hand with science and shares with it the opportunity for study which every field trip and every excursion provides. Each locality possesses some interest which offers possibilities to the teacher for organizing her project. It may be a river which opens up a wide choice of related subjects, a mountain or a plain, a product of especial value to the community as an article of commerce or of manufacture, or a landmark which holds some special significance in local history.

Maps are wholly outside the question in this early work, and are, at best, but diagrams upon which to base a conception of size and shape and location. They have little to do with the real subject and often produce an erroneous impression which may cling to the child through all his later life. He should learn to know his town through his contact with its life. He should be led to think of his State as he thinks of a beautiful landscape, situated in the East or West, the North or South, with a wonderful diversity of mountain or plain, rich in natural products, watered by many rivers, abounding in fertile farms and prosperous cities. This should be his ultimate impression, his own State merging into one continuous panorama, without artificial barriers and boundaries of line and color, which, alas, he all too often remembers from the maps he sees upon the blackboard or in his textbook.

## CIVICS.

Reports of the child's observations of his own house, its color, size, and general appearance; of the different rooms in his house, the furniture in each, and its specific purpose offer excellent material for these units of study.

The family life which surrounds the child, the different members of the family, and their relation to him are close to his interest and experience. Discussions in the schoolroom of the child's home activities, setting the table, washing and wiping the dishes, making the beds, and the best ways and the necessity for performing these homely tasks will lift them above the plane of drudgery they so often occupy in the child's mind, and will afford, at the same time, a most opportune occasion for early lessons in civics.

Later his interests extend out into the town in which he lives and his participation in its life and history: The material construction, location, plan, streets, and buildings; the personal needs, food, shelter, and clothing; the professional contacts, the employer, the teacher, the doctor, and the preacher; the social experiences, recreation and intercourse, and the ethical significance of the government of the town. Finally, it leads him out into the world of foreign peoples with their typical manners and customs, and through comparisons and contrasts in this study he forms his ultimate standards.

Throughout this series of problems the civic interest and the history interest are coincident, they merge and blend, they sustain and supplement each the other.

## HISTORY.

Back of every project in history should lie our ultimate purpose—to instill in the minds of our pupils the great principles of democracy, upon which our Republic rests. The detailed study of manners and customs in the lives of primitive peoples seems to be the logical starting point for history lessons in the primary grades. Our early settlements in portions of the New World offer to

the children a richness of material for history stories which no other record of daring and adventure can surpass.

American history is filled with material for lessons in Americanism and the principles of free government. It possesses, more than most, the dramatic and picturesque background so appealing to little children. Its stories of primitive life depicted in the early chronicles hold a compelling interest for primary pupils. Extreme contrasts afford a most artistic element in these narratives—Puritan asceticism as contrasted with Indian barbarism, the kerchief and cap with the feathered headdress and war paint; log cabin with wigwam, and all the homely virtues intensified in a land of wanton practices. Our heroes of exploration, the swashbuckler and priest, French commandant and emigré, fur trader and Spanish grandee, fill the pages of our history with tales of fortitude and courage. Washington and Lincoln, a home of wealth and culture, and a home of poverty and privation, each contributing to the Nation's greatest need, one a "father" and one a "savior" of his country—where in the annals of another country might we find a record so convincing with which to teach the principles of our democracy?

We shall be emphasizing pageants, plays, and festivals during the coming years as a part of our effort to imbue our children with the spirit of democracy. These will abound in symbolism of national ideals, with national events and national progress. We shall learn to sing our national hymns, to recite our national odes, and to salute our flag with a reverent and a contrite heart, realizing that we, as elementary-school teachers, must sow the seed of patriotism in the early years and trust to those beyond us in the work to sustain and encourage its growth.

#### LITERATURE.

Literature illustrates and beautifies the subjects of study. It is like an accompaniment played upon an instrument during an interpretative recital. For the children it interprets the various phases of nature and enlivens the facts of history. It should be woven into every project as a complement to the study of the central subjects, unless, indeed, it becomes itself a unit of study.

The myth is the beginning of science and history and is closely allied to the early study of those subjects. The cumulative and repetition stories in folklore are the beginning of civics and introduce these early lessons in human relationships through word pictures of concrete and vivid situations. The fable is the beginning of ethics and subtly paves the way for training in right conduct. These stories offer the best opportunities for studies in literature. They carry the child outside himself into a world of imagination and fancy. They build upon the known element in his everyday experience and idealize and enlarge those experiences.

American literature abounds in choicest specimens of English composition which bear a message of national import. We are unusually fortunate in our poets who have contributed largely to the sum of American literature for children. The modern fairy tale is not so good, and should not be used as a substitute for the old classic story which teaches the truth in a better manner. Care should be taken to apply the universal truth embedded in the old Greek and Norse mythology to the child's present-day environment, else the intrinsic value of a study of this literature will be lost.

*Tool subjects and content subjects.*—Literature and language are so closely associated in the primary grades that the consideration of one involves a discussion of the other. They differ widely in their function, however, for



language is a tool subject, a mode of expression, while literature is a content subject, which in the form of story-hearing by the pupil becomes a mode of attention.

The telling of a story as a unit or a single piece of literature involves the organization of the story into parts which must follow each other in logical sequence, the play of the imagination over the details of the story, the clear visualization of the setting of the story, and the action which takes place, and the training of the body to respond, naturally and simply, to the emotions which the story may arouse.

Later, readings in literature should be made for the gratification they afford and for the study of human life which they offer, without thought of analysis or dissertation. "Everywhere have I sought peace," says the blessed Thomas à Kempis, "and have found it nowhere, save in a corner with a book," which most aptly expresses what our ultimate use of literature should become.

## II. MODES OF ATTENTION.

### OBSERVATION, HEARING LANGUAGE, SILENT READING.

#### OBSERVATION.

Without doubt, observation plays the most important part in our acts of attention. Emphasis has already been placed on observation as a means of study in science and geography. It is the primitive, universal mode and should be cultivated in early grades to the extreme of its possibilities.

His training in a close and accurate observation cultivates the child's visual memory, upon which depends all the mental pictures which he creates in the realm of fancy and imagination. This is the fundamental principle upon which the child's education depends: His ability to form vivid mental pictures from his acts of attention and his ability to create out of these other images in the field of constructive imagination.

The teacher's task is not only to present the necessary stimuli, but to train the children under her care in the cultivation of mental imagery. The modes of expression which are given in the next few pages are important means in this training.

#### HEARING LANGUAGE.

Hearing language is a more difficult mode of attention to master, since it deals with symbols and the child loses the direct contact he enjoys in observation. But a trained ear is quite as important as a trained eye. This is true in language training, because it is through the sounds of language that the interpretation of meanings are secured. Many critics believe that silent reading depends upon the auditory image for its functioning. All authorities agree that the ear is the important organ to be considered in teaching little children to speak, to read, and write. "Address the ear principally," Gouin exhorts the teacher of language, "afterwards take as auxiliaries the eye and hand in reading and writing." Huey agrees that "the ear, and not the eye, is the arbiter of speech; the mouth, not the pen, its greatest instrument."

Naturally the story is the usual medium through which to reach and hold the child's attention in the primary grades. Later narrative, exposition, and oral reading play a large part in the act of hearing language. Caution is needed here against the use of oral reading as an act of attention in the lower grades. Children receive very little of content through this subject at this time. Their

acts of attention in oral reading usually are focussed on forms and symbols, and their souls are harassed and troubled by difficulties present and unknown dangers to come.

Skill in telling stories to little children should be as much a part of the teacher's equipment as a knowledge of good literature and discrimination in its selection should be. All the art of story telling which she covets for her pupils the teacher should herself possess a hundredfold. Nor does her responsibility end with the telling of the story, for a very definite consideration of its movement from one point of action to another will assist the children to organize its parts into a logical, literary whole, and will train them in that priceless accomplishment—the ability to form vivid images from hearing word pictures.

### SILENT READING.

Reading is the third and last mode of attention, and silent reading becomes in later grades the almost universal one in the study of the central subjects. For that reason it should occupy a larger place in the early grades curricula than is now accorded it. Upon it depends the child's power to study and read intelligently through all his later life.

It is needless to say in this connection that of all the subjects in the course of study which lose their function in the hands of the average teacher the subject of reading suffers most. In nearly all schools it is taught as a subject of study through formal drills in technique. Oral reading, which is a form of speech and whose function is expression, degenerates into exercises on the pronunciation of words. Silent reading, which is a mode of attention, is neglected in the first grades until the pupils lose their power to use it in the upper grades according to its function as a mode of attention.

*How to cultivate the silent-reading habit.*—A reading room for pupils in elementary grades should be set aside in every elementary-school building. It should be furnished much as the children's rooms in public libraries are furnished. Low book shelves should line the walls, filled with books of many kinds; books for tiny children still reading from the pictures in a book and too little yet for texts; shelves of children's classics chosen from Kipling's storehouse, from Carroll, Baldwin, and Scudder, from Perrault and Æsop and from Mother Goose, and just as many as possible of the beautiful readers which the schoolbook publishing houses are bringing out in de luxe editions. These should be arranged not more than 4 feet from the floor, within easy reach of every child in the school.

This withdrawing room would provide for the children an opportunity for silent reading which the ordinary overcrowded assembly rooms do not now afford. Until the children are able to read they will enjoy looking through the books and inspecting the pictures. No seat work was ever devised that can be compared, either in its appeal or in its educational value, to a number of good books conned over and enjoyed by a child in these grades. As an aid in training the child's critical sense in good language forms it has no equal.

*How to stimulate interest.*—The reading interests of a group of children may be utilized in various ways. The reports in class on selections read, and exchange of books between pupils, with discussions of the pictures, the story, and the characters, will pave the way to a later interest in library reading.

*Library reading.*—One hour each week, at least, should be spent by the primary grades in a library with their grade teacher. Picture books and reading books should be inspected by the children, questions asked and answered, and encouragement given to each child to draw out a book and take it home to read.

if possible, or to hear it read by one of the family. The library habit should be cultivated early, as soon as children are interested. This may not be feasible in schools where libraries are some distance from the school building, but even a field trip on the street car or a long walk with the library building as the objective will amply repay the effort made to reach it. The library atmosphere is unique and can be experienced only by personal visits. It is one of the best of the higher influences which touch the child and should be formed early to insure permanency.

### III. MODES OF EXPRESSION.

#### GESTURE, MUSIC, MAKING, MODELING, PAINTING, DRAWING, SPEECH, AND WRITING.

Some modes of expression are peculiarly appropriate for one subject and some for another, depending upon the type of lesson, the teacher's convenience, her class of children, and the materials she may have at hand.

To visualize, to discuss and relate, and to reproduce is the orderly sequence of reproduction in any subject; to call up the mental picture and then to describe it through the media of the various modes of expression; by oral language, graphic art, gesture, and later by written language; by whatever mode is most appropriate.

To visualize is the essential, fundamental principle upon which this training rests. "I believe that the image is the great instrument of instruction," says Dewey in his *Pedagogical Creed*. "What a child gets out of any subject presented to him is simply the images which he himself forms with regard to it." The teacher's part in this study is not to instruct but to help the child to form his image and to suggest and provide a suitable medium through which he may express that image.

#### GESTURE (INCLUDING POSING AND DRAMATIZATION).

Any form of gesture is a mode of expression and is essentially an art subject. It has to do with emotion, thought, and feeling. Grace and dignity of carriage, poise and freedom from self-consciousness are some of the finer qualities which this mode of expression develops.

*Posing and dramatization.*—Posing is the mode of expression which emphasizes motion and should precede the dramatization of a story. It is used most frequently to impersonate a character in some characteristic pose. Many children who have difficulty in acting can take the pose of a character. Diffident children will be able to take part in this simpler form of action.

Dramatization emphasizes action and is used in reproducing a story or an incident in history or literature which has a decided dramatic quality and is characterized by action. Much of the value of this mode of expression lies in the opportunity it affords for initiative and resourcefulness. The children should be as free as possible during this period. After a leader has been selected he should be held responsible for the presentation of the play. He should assign the different parts and instruct the characters. If his efforts fail another leader should make an attempt to organize the story into dramatic form and to present it before the school. "Hands off" should be the teacher's slogan if she desires to cultivate initiative in her pupils. A pantomime may be organized by a group of children outside the classroom, and after presentation the class may guess the name of the story that has been dramatized.

## MUSIC.

Music should receive the same treatment in the primary grades as that accorded the other modes of expression—an avoidance of technique until the children are quite proficient in singing the beautiful songs prepared by our best composers of music for little children. Rote songs should accompany the lessons in science, in history, and in literature as a mode of expression. The study of symbols should be deferred until the third or fourth grades, at least. Emphasis in all grades should be placed upon music as a mode of expression rather than a subject of study.

## MAKING (INCLUDING SAND-TABLE BUILDING).

There is no mode of expression more valuable than that of making. It represents the object more adequately than any other, because length, breadth, and thickness can be expressed by it and it reproduces the object in the same or similar material. It leads to a study of form, of size, and of proportion in all the dimensions. More important still, the children's interest is held by it indefinitely, and their enthusiasm as well.

*Building on the sand table.*—The representation of regional projects in miniature on the sand table has many educational assets and some liabilities. This treatment is used largely in primary grades to make concrete the impressions which the children are receiving in some unit of study, like the farm, the town, or the setting of a story. It has a direct bearing on the problem of visualization and helps to clarify the mental image. But the child must be led out from his models on the sand table into a sense of reality and on into the field of constructive imagination. Unless this is done his image ceases to grow and he will forever after see the tiny models on a sand table when he wishes to recall some typical setting in a history or geography lesson.

## MODELING.

Clay modeling emphasizes form and substance and represents the object in bulk which may be expressed through the clay or plastocene medium. It also possesses an unusual value because a compelling motive lies back of the work. The content of the picture is in the child's mind when modeling is used as a mode of expression and not a representation of the form only.

## PAINTING (INCLUDING PAINTING A LANDSCAPE).

Painting emphasizes form and color and is important as a means of cultivating the child's sense of color. Painting with water colors is a difficult mode for little children, because the wash of color must be kept within the outline of the object. If the outline is cut out before the object is painted it will not limit the stroke of the brush, and when it is finished it may be pasted on an appropriate background.

*Painting a landscape.*—Colored-poster effects to illustrate a story in history or literature may be prepared through this medium in the form of a landscape in water colors for the background of the picture, with the painted objects pasted in their appropriate places on the picture. The wash of color for the background should be made with a sideward stroke of the brush from right to left, the upper half of the picture in blue for the sky and the lower half in an appropriate color for the different seasons of the year—green for the spring and summer landscape, brown for the fall, and dull gray for the winter. Hills or level country are represented by the sky line, which is drawn in lightly with a pencil before the painting is done. Trees and other painted objects may be pasted into the picture to represent any type of landscape that is desired.

## DRAWING (INCLUDING BLACKBOARD DRAWING).

Outline drawing has little to recommend it as a mode of expression in the elementary schools. It requires painstaking effort on the part of the pupil and results in a hard, inflexible line which poorly represents the outline of any object.

*Blackboard drawing.*—Drawing on the blackboard, or chalk modeling as it is usually called, emphasizes the environment or background of the child's picture and is the best medium for the early work in drawing. If the children are encouraged to draw freely from the first day of school they will have no fear of what to an untrained teacher is a difficult task. Children draw as naturally as they make a gesture and much more naturally than they talk when the reproduction of a story is involved. "I can not tell it, but I can draw it," is often said by children who have had this training, or whose natural aptitude for drawing has been encouraged and developed.

Chalk modeling at the board consists of long, sweeping, downward strokes with the side of the chalk for the vertical objects in a landscape, like the trunks of trees; side strokes from left to right for rolling country; and slanting strokes for hills and mountains—a type of reproduction which is extremely simple for little children. The drawings are crude at first, but they gradually assume correctness of form and proportion under the kindly guidance of the teacher. This method also gives full play to the free arm movement so essential to good penmanship in later grades and is an invaluable training in graphic expression.

*Cutting.*—Cutting the outline with paper and shears is a more satisfactory medium than drawing with a pencil, in early work especially. It brings the outline to the child in a tangible form, so that the eye is reenforced by the sense of touch when the outline is cut away from its background. The medium seems to be a simpler one than pencil and paper so far as the child's control is concerned. Its chief criticism lies in the fact that the child's training in this mode of expression does not carry over into his later work in art and expression.

## SPEECH.

The project offers unlimited opportunity and material for the exercise of oral language. Every lesson in science and geography, in civics, history, and literature is approached through this mode of expression. Conversations, questions, and discussions stimulate the children's interest in these subjects and provide occasion for the use of oral language.

Upon this mode of expression all other modes are based. The other language subjects—reading, writing, spelling, and phonics—are closely connected with it, and the appropriate correlation which exists between oral language and the manual arts as modes of expression should be emphasized by the teacher as she trains her pupils in their use.

*Oral reading lessons.*—Development lessons in written language and oral reading should grow out of each lesson which is given in the subjects of study. There is no better way of teaching reading than this. The teacher stands before her class, chalk in hand, near the blackboard, and as the pupils formulate their sentences she writes them on the board, later to be typed and bound into reading books.

This exercise offers opportunity for discussions of good language forms, of logical sequence in events, and of clear and concise statements. Two elements should be in the teacher's mind—a limited vocabulary and the need of

much repetition. This step from oral language to written forms is made without difficulty in these exercises because the sentences are of the children's authorship and are based upon their own experiences.

*Auditorium periods.*—The lack of opportunity for oral language is the most noticeable defect in the elementary-school program. Individual pupils in the first grades throughout the country speak less than 100 words during a five-hour session of school, including all their responses in the recitation periods of the fundamental subjects. They talk on an average less than half a minute during the school day; and this opportunity is not appreciably greater in the middle grades.

It is one of the best signs of the times that get-together exercises are becoming more and more a feature in the daily school program. Here is a compelling motive for exercises in oral expression and those modes most closely related to it. Once a week at least the elementary school should come together for an hour of music and literary exercises, and for reports on civic interests and nature observations. The Francis W. Parker School in its Yearbook on Morning Exercises, sums up the values of this period in its school in the following words:

It is evident that the exercises grew out of the daily work of the school or out of the interests of the children in some large, absorbing outside question. The subject is sometimes science, the telling or illustrating of nature observations; the story of some visit to the farm, the art gallery, or workshop; history, current events; the massing of the literature and music of some special subject or special day; the telling of stories that delight the children's hearts; or the discussion of some problem of vital significance in the community school. Therefore the exercises instead of interfering with the school work, emphasize, reinforce, and vitalize it; give it purpose and form and furnish the best test of the children's growth and power to think and of their skill in expression.

A distinct motive lies behind the use of oral language as a mode of expression in the auditorium period. Artificial and unnatural attitudes toward this exercise are fostered if the child is asked to stand before the class and repeat, time after time, a story with which the class is already familiar. He is being trained and he is conscious of it and usually resents it; at the least it tends to make him self-conscious and robs the exercise of all spontaneity and pleasure.

### WRITING.

*Writing, a mode of expression.*—Writing is not a subject of study. It is a mode of expression and should be taught as such. The child should spring to the board under the impulse of an idea and attempt to express that idea in writing. It may be only an isolated word that is emphasized in the reading lesson, it may be a phrase or a short sentence, and the writing of it will be crude at first and scarcely legible, but in a few days the words shape themselves into readable form, and the child has mastered the first step in written language.

The first demand, usually, that meets the child when he enters school is to write his name on the board to mark his place, at his seat to mark his papers, on his material, boxes of paints and crayons, of pencils, of words and letters to be used in reading, that he may distinguish them as his own. As he becomes more proficient he labels this material and the furniture and apparatus which he uses. In scores kept in the games he plays, in street signs in his playtown, or names and prices of foods in his playstore, in numberless activities these demands grow from day to day and are the real incentive for teaching him to write, that writing may become a useful tool to assist him in his work, rather than a long deferred accomplishment gained through weeks and months of formal drills in penmanship.

## IV. MODES OF JUDGMENT.

## FORM AND NUMBER.

*Form and color.*—A significant feature of the Binet tests, as they are formulated and used in the first grade in the Detroit public schools, is the emphasis which is placed upon judgment of form as a criterion of the child's mental ability. "Which is the prettiest?" is asked regarding the pictures in outline drawing of three birds—the owl, canary, and parrot. Three horses, three dogs, and three fishes are presented in the same way. "Show me another window like this, make the second picture look like this; what is lacking in this picture?" are questions in this test which are evidence of the high value placed upon the child's critical faculty in the matter of form as a measure of his intelligence.

Color is so closely allied to form that one is never absent from the other. For that reason color should receive a greater emphasis than is now given it in early education. So many black and white prints are used to enhance the pupil's mental picture, so many descriptions are given him which are devoid of the color element, and he is so often allowed to reproduce an impression filled with color through a neutral medium, that his image must become a dull and drab affair in our efforts to educate him.

Much emphasis is purposely placed upon the color feature in the projects reported in this bulletin because of its paramount importance as an attribute of form in the training of a child's acts of judgment. Its esthetic value is immeasurable. A beautiful landscape or a tiny flower fills the child's soul with ecstasy. Often the blend of color is all the child sees in his nature observations, while the appreciation of graceful line comes to him later. Consciously or unconsciously the color which surrounds him has its subtle effect upon his character and should be given a large place in the teacher's plans for her projects.

*Number.*—Number includes size and proportion as elements in the child's mental image, and his judgment regarding these should be carefully trained from the earliest days of school.

The use of number should be emphasized and its relation to other subjects developed. The child should build up within his consciousness a number sense by using it as a unit of measurement. The length of inch and foot and yard should become familiar to him. He should know the size of pint and quart and gallon, and be able to roughly estimate the difference in weight between pounds and ounces. His judgment of distances, of yards and rods and miles, should be trained to approximate accuracy. He should use his hands and feet in verifying his judgment, measuring with tape and ruler and pacing off the greater distances. He should be able to read a thermometer and tell the time of day on the clock face. The days of the week, the months in a year, and the ever-changing seasons should enter into his understanding. Provision for this training in the judgment of size and proportion, of length and breadth, and thickness, of weight and volume, of degrees in heat and cold, of duration of time, must be made in our organization of projects if we wish the subject of number to function properly.

## Chapter II.

### A SERIES OF PROJECTS IN CIVICS, HISTORY, AND LITERATURE.

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#### INTRODUCTION.

The projects which are reported in this bulletin have been worked out in every instance with the participation of the author. They have a many-sided value for the teachers and pupils in the elementary grades. Projects of this kind have become a power in ethical training; they motivate the work of the school along the line of altruism, and unify the interests and vitalize the activities within the schoolroom wherever they are used. It would be impossible in recitations of this kind to "separate the information lessons from their social bearings," and the "acquisition of modes of skill from their relation to the social uses to which they may be put."

Something more than educational conventions should interest us as elementary school teachers. Something more than the three R's should be required of us. Accumulation of information? Yes, but closely connected with the activities of life. Acquisition of the modes of skill? Yes, but with the realization of their social uses. Broader than the schoolroom and wider than the school-yard must be our platform. It must include the town and the country, the home, the shop, and the store, and all that makes up the child's environment.

#### REORGANIZATION OF WORK IN A MILL VILLAGE SCHOOL INTO A SERIES OF PROJECTS.

One of the most recent studies of community life in the project form is that reported from the school in a cotton-mill village in a southern State. Every grade in the school had some part in this study of home environment. Each child contributed his quota to the general fund of interest and experience which formed a basis for this study and acquired proficiency in the expression of some phase of it.

#### A SURVEY OF THE FIELD.

The month of April in North Carolina is a season long to be remembered by a visitor from the Northern States. Especially is this true of one of the model mill villages there. The woods beyond the village are showing a profusion of coloring not found in many localities. From the faintest green of the early leaf to the darkest bough of the pine tree they stretch away before us in every shade of blue and yellow, while underneath the branches the snow-white blossoms of the dogwood gleam through the shadows, and the purple Judas tree adds a brilliant dash of crimson to the panorama of the springtime.

In the foreground of the picture lies the village. Its orderly rows of houses, in gray and brown and ocher, flank the broad, white streets with their concrete curbstones. At one end of the principal street stands the church, and near it



are grouped the community store, the teachers' cottage, and the two little red brick schoolhouses, giving a pleasing contrast to the neutral tone of the cottages.

At the other end of this street stretches the long, red cotton mill, the center and motive of all the activities of this community. Here the skillful men and women and the busy boys and girls of the village work through the days and nights to keep the flying shuttles and the whirling spindles in motion.

Out beyond the mill, on the edge of the woods, is the dairy, with its stalls for the cows, its milking room, cooling and bottling room, and cleansing and airing apparatus for sterilizing the utensils. Here is the dairy yard, drained and tiled, with a concrete drinking basin, a pasture sown to grass for the summer feeding, and all the latest contrivances used to safeguard the milk supply of the community.

Not far away the piggery has just been constructed in the form of a hollow square with pens opening on the outside for the food supply, and on the inside to allow access to the court, which is also drained and tiled like the dairy yard and supplied with a concrete wallow in addition to its drinking basin. Nearly every family in the community is represented in the piggery. The garbage from the table of the household is collected and fed to the family pig in the piggery, and returns after a few months in the form of pork, ham, and bacon.

The outlying fields have been plowed and fertilized and cultivated, and here the community gardens will be planted, while at the rear of every bungalow a garden plot is ready for the sowing of vegetable seeds and the planting of sets from the community hothouse.

Just outside the windows of the schoolroom, where the children are busy with their books, the hothouse stands, filled with boxes of sprouting seeds, and in the yard adjoining long rows of cold frames display their beds of tiny plants all ready for transplanting to the neighboring gardens.

In the basement of the school is the gardener's office, supplied with seeds of every variety and tools of every description for planting and cultivating a garden.

Across the road from the school workmen are draining one of the village lots, preparing it for the school garden. A small brick catch basin with an iron grill-work cover receives the water and insures the best of drainage conditions. The land has been plowed and harrowed and made ready for the children. Garden walks, 8 feet wide, cross and recross this open lot and divide it into small, rectangular beds which will be apportioned to the pupils in the school for their individual care and cultivation.

*The child's relation to this environment.*—Many times a day the children in this community pass and re-pass the gardener's office, the cold frames, and the hothouse. They see the men at work in the fields getting ready for the spring planting and nearer by the preparation for their own school garden.

They visit the piggery and feed their own little pig, who puts his wiggling snout through the opening in his pen and incessantly squeals for more.

They loiter by the dairy and watch the cows standing all day in the dairy yard, chewing their cuds, and waiting patiently for their feeding time. They can tell you that the small dun-colored Swiss gives 6 gallons of milk per day; that the two deer-eyed Jerseys are a little short on milk but long on cream and butter; and that the Alderneys are to be replaced by the Ayrshires.

They carry dinners back and forth from their homes to the mill, and many of them have already become familiar with the tasks which will fall to their lot when they enter into their apprenticeship there.

They understand the full significance of the late war in its effect on the output of the mill. From their standpoint a war contract means shorter hours in the mill and higher wages. It means additional luxuries for all the family, better clothes and food and longer week-end holidays.

They are already familiar with the processes involved in the making of cotton cloth. They have seen the bales of cotton coming into the mill, the cleaning, the combing, the lapping processes through which the cotton fiber passes on its way to the spinning room.

They have seen their fathers and mothers, older sisters and brothers mending threads, oiling machines, turning on and off the electric power which controls the work of the mill.

They have spent many a holiday in the woods, and have rejoiced, howbeit subconsciously, in all the beauty and charm and fascination which nature holds for most of us.

They watch the landscape gardener make a clearing in the woods for the dairyman's cottage. They see his men felling trees and pulling stumps in the latest and most approved method. And when the stump holes fill with water and the mosquito larvæ appear they help to pour on the oil that shall exterminate this pest and insure to the people of the village a summer of peace and comfort.

They have discovered that the gardener does not use the saplings in his nursery when he plants the shade trees in the superintendent's dooryard. He brings them from the forest, fully grown, and measuring 20 feet from limb to limb, and here they rise, in a single day, giving the same profusion of leaf and shade to this household that is enjoyed by those who have waited 20 years for trees to reach maturity.

*Need of the school to consider this environment.*—All these activities of the child himself and the people around him make up the sum of his existence. They are his world, his life, and his immediate interest, and should find some place in his school work.

The miracle of spring takes place under his very eyes and becomes one of his most cherished experiences. Pure milk supply is a most vital subject, involving as it does the broader subjects of nutrition, sanitation, and the conserving of food. The story of cotton, its connection with the progress of the world in inventions and manufactures; its economic bearing upon the history of the world's commerce, and especially upon the social and civic life of the people of North Carolina; its vital relation to the everyday life of the children in this mill village community—these interests create an unusual opportunity for the development of projects, both in the course of study and in the daily recitation.

The use of electricity, where it is generated, and how it is carried long distances, enabling the manufacturer to establish his factory in out-of-the-way places far removed from the power that controls the machinery, is a subject of the utmost importance to all the people connected with a cotton mill and should be amply discussed in their schoolrooms.

*Outline of work.*—As the work was finally organized, the home and its activities were used as a center of interest at the beginning of the school year. The children in the two first grades began by making observations of their own homes and discussing with the teacher how they were built and how furnished. Then each child made a booklet, putting a picture of a house on the cover. Each week the pupils planned the suitable furniture for a room in the house. From catalogues and magazines they cut and arranged furniture for a living

room, bedroom, dining room, and kitchen. A study of the family life of the home grew out of this study of the house and included many lessons in civics.

Reading and language lessons were developed. The sentences were formulated by the children during the reading exercise and were written on the blackboard by the teacher, later to be typed and bound into small reading books which contained eventually all the reading material which this project included.

Early drawing lessons on the blackboard trained in flexibility and control, and led up to the first lessons in penmanship. Outlines of houses and flat drawings of furniture afforded excellent models for this work.

In language periods the activities of the home were posed and dramatized and many lessons in social etiquette were inculcated, since these children had the habit of opening front doors and of wandering at will through any house in the village. The story hour was filled with selections which have a peculiar charm for children, on account of their repetitive quality the *Three Pigs* and *Their Houses* and *The House That Jack Built* being especially appropriate.

The second grade furnished a house and dressed a set of dolls to live in it. The third grade watched the building of a house, and as the teacher photographed from day to day with her camera the progress of the building the pupils made blue prints for a little brochure on house building. The fourth grade in this school made a special study of the community grocery store. They brought small samples of condiments from home and hung them in bottles on a chart, reporting from time to time on the source and manufacture of these products. The fifth grade made a study of the village with reading and language lessons bearing upon the activities of the town, the mill, the Y. M. C. A., which was its social center, the church and school, the community dairy, piggery, and the community gardens. Booklets were also made in this grade and blue prints inserted of different views of "our village." Seventh and eighth grade pupils carried this study of local environment out into a larger study of American cities, how they were founded, their plan, location, governments, etc.

Underlying this framework of civic interest ran a study of cotton from seed to loom apportioned among the different grades, which included numerous lessons in agriculture, industrial science, and nature study.

Here was a line of work especially adapted to each grade of the school in separate units and yet with relationships established between the different grades and a line of continuity running through from grade to grade which held the whole plan together and sustained its logical sequence from the beginning to the end.

## I. PROJECTS IN A MILL VILLAGE SCHOOL.

### THE HOUSE PROJECT, GRADES I AND II.

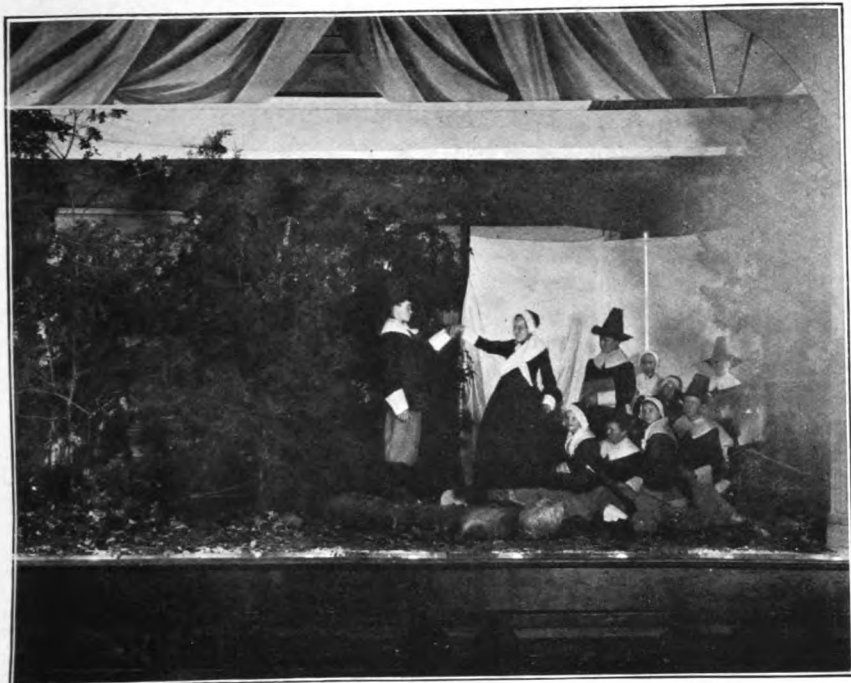
- I. *History and geography*.—Homes in other times—Hiawatha's Pocahontas', Pilgrim's, Washington's, Lee's, Jefferson's, Lincoln's.
- II. *Nature study*.—Homes of birds and insects—the robin, spider, snail, turtle, aunt, and bee. Homes of animals—the squirrel, rabbit, beaver, and bear.
- III. *Literature*.—Stories—How the Sheep and Pig Set Up House; The Three Little Pigs. Poems—Foreign Children—R. L. Stevenson. Songs—There's No Place Like Home. Songs and games—London Bridge Is Falling Down.
- IV. *Art*.—The Swallows—Laux. Ann Hathaway's cottage.



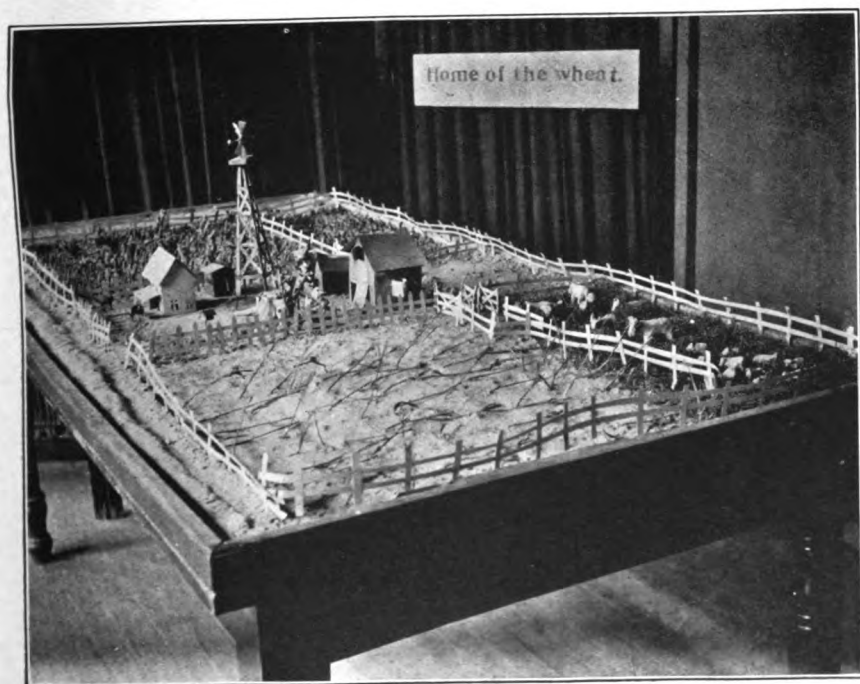
PLYMOUTH PROJECT: PILGRIMS GOING TO CHURCH.



PLYMOUTH PROJECT: SMOKING THE PEACE PIPE.



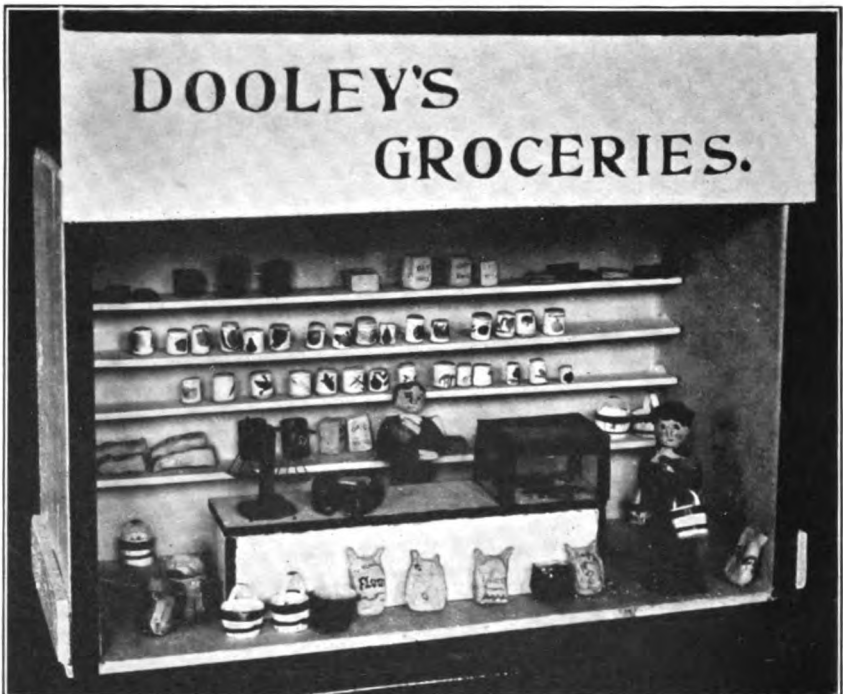
A. PLYMOUTH PROJECT: THE LANDING OF THE PILGRIMS.



B. BUILDING A FARM ON THE SAND TABLE.



A KNEADING BREAD—FIRST AND SECOND GRADES.



B. MAKING A GROCERY STORE: A PROJECT IN SLOYD AND NUMBER.

V. *Language*.—Projects in modes of expression—telling, drawing, picture-book making, reading, writing of units in these projects.

1. Telling—informal conversations between teacher and pupils; story-telling; reciting poems; reports on home work.
2. Making—making picture books of homes in different lands; cutting and pasting pictures on sheets of paper and binding them into books.
3. Reading—lessons from the blackboard formulated by the children and typed by the older pupils for permanent use.
4. Drawing—drawing on the blackboard the different units from these projects. (Exercises in free-hand movement as a technical training in writing.)
5. Writing—early lessons in copying—titles under pictures in house book. Later lessons in composition.

#### THE COTTON PROJECT FOR ALL GRADES.

##### THE COTTON FIELD.

##### I. *Plowing for cotton in the South:*

1. Time and method of plowing; deep furrows, stalk cutter used before plowing, and stalks left on the field as fertilizer; other fertilizers used.
2. Plowing cotton fields in other lands; plows of long ago and now.

##### II. *Planting cotton in the South:*

1. Kinds of soil best suited to the growth of cotton—light, sandy, loamy soil.
2. Planting by hand and by a cotton planter—first in rows, and then thinned into hills.

##### III. *Cotton growing:*

1. Germination of the cotton seed.
2. Climatic conditions affecting the growth of cotton: Rain, atmosphere, frost, and heat.
3. Geographical areas for the growing of cotton: 35 degrees latitude either side of the Equator; sea-island cotton.
4. Cotton growing in other lands: Egypt, India, South America, Russia, and China; irrigation of an Egyptian cotton field.

##### IV. *Cultivating the cotton plant:*

1. The principle of capillarity in the soil; dry farming as a reclamation project.
2. The use of the hoe and the spread-tooth cultivator.
3. Constant cultivation of the cotton field.

##### V. *The cotton flower:*

1. Parts of the flower and their use.
2. Pollenizing the flower.
3. How the seed cradle forms.
4. The boll weevil, its depredations and extermination.

##### VI. *Picking cotton:*

1. Picked by hand, as no successful machine has yet been invented.
2. Hands pick on an average 100 pounds per day, at 2 cents per pound.
3. Cotton is weighed in the field and credit given each picker.
4. Crude scales in use for weighing cotton.



VII. *Ginning cotton:*

1. Removing the seeds from the cotton fiber: the cotton is hauled from the fields to the gin and the seeds are removed there.
2. Eli Whitney and the cotton gin.
3. Mixing seeds in the gin leads to deterioration of species of cotton.
4. Cotton ginning on the old plantation.

VIII. *Baling cotton:*

1. Pressing the cotton into bales; a modern compress and a cotton screw in the old plantation; former reduces 500-pound bale from 3 feet to 12 inches in height.
2. Modern bale is 5 by 5 by 3 feet and weighs about 500 pounds.

## THE COTTON PROJECT FOR MIDDLE GRADES.

## WHERE COTTON COMES FROM.

*United States.*

- I. The famous "Cotton Belt" (producing upland cotton): Nearly three-fourths of the world's supply of cotton is produced in the Cotton Belt of the United States, comprising the Carolinas, Georgia, Alabama, Mississippi, Louisiana, Texas, Oklahoma, and parts of Virginia, Tennessee, and Florida.
  1. The delta areas are found in the States of Mississippi and Missouri.
  2. The South Atlantic areas comprise North Carolina, South Carolina, Georgia, Florida, Alabama, and parts of Virginia.
  3. The intermediate areas are Tennessee, Mississippi, Arkansas, and Louisiana.
  4. The southwestern division is Texas and Oklahoma.
- II. The Sea Island cotton area in South Carolina, Georgia, and Florida: Sea Island cotton is grown for its unusually long and silky fiber, which is used for making fine fabrics and laces. It is used also where great strength and durability are required, as in the manufacture of cloth for the best grades of automobile tires.
  1. The South Carolina areas are along the coast on the Sea Islands, the chief of which are James, Edisto, John, and Wadmalaw.
  2. The inland area is confined to the counties lying along the coast of Georgia and northern Florida, a few miles inland from the shore line.
- III. The Arizona-Egyptian cotton in the Salt River Valley in Arizona: Egyptian cotton until very recently has been produced commercially only in the delta and lower valley of the Nile River, in Egypt. Its most striking characteristics are length of staple combined with great strength and fineness. Other areas are—
  1. The Salt River area in Arizona.
  2. The Gila Valley area in Arizona.
  3. The Yuma Reclamation Project.
- IV. The Durango cotton in California: While Egyptian cotton can be and is successfully cultivated in the Imperial Valley, California, it is not so popular as the new Durango variety.
  1. Imperial Valley area.
  2. Colorado Valley area.
  3. San Joaquin Valley.

## THE COTTON MILL PROJECT FOR MIDDLE GRADES.

## WHAT IS MADE FROM COTTON.

*Southern mills.*—Dimity cloth, and similar output. Output of the North Carolina mills—yarns, sheetings, print cloth and drills; about one-fourth consists of checks, gingham, denims, and plaids, about one-twelfth of fancy goods, high-grade dress goods, and sateens.

South Carolina mills produce smaller quantity of yarns, but about three-fourths of their products are sheeting, shirting, drills and print goods, while one-sixth of their output consists of denims, gingham, and ticking. A large proportion of fine goods is produced in North Carolina.

The product of the Georgia mills like that of North Carolina.

The product of the Alabama mills like that of South Carolina.

Improvement noted, lawns, fancy goods, and mercerized goods coming out of the South.

*Through the mill.*—(1) Bale of cotton enters mill—weighs 500 pounds, worth \$150, measures 5 by 5 by 3 feet; (2) mixing room, mixed with other bales; (3) lapping, cleaned and formed into a lap, or bat, or roll; (4) carding, fibers straightened, lying parallel; (5) drawing, stretched and pulled out to prepare for twisting; (6) slubbing, fiber twisted and wound on bobbins; (7) roving, twisted still finer and wound on smaller bobbins; now ready for spinning.

Ring spinning; used in the South. Roving spun into warp and filling; warp runs lengthwise of the loom, and filling is carried crosswise by rapidly moving shuttles.

Cloth room; cloth carried in bolts to the cloth room and cleaned and finished. Cloth shipped away for this purpose is called converter's goods. Dimity cloth is shipped to Baltimore, Md., for bleaching and is made into men's underwear at the factories in that city.

*Economic values.*—Cotton fiber in 1918 valued at \$1,750,000; cloth from it valued at \$2,000,000,000; persons employed in production, manufacture, and commerce, 10,000,000; persons dependent upon it for food, shelter, and clothing, 50,000,000; dimity cloth increases four times in value from raw material.

*Geography.*—Spindles: Active cotton spindles in the United States 1914: In the cotton-growing States, 12,711,308; New England States, 17,408,372; all other States, 1,987,897.

United States ranks second in the world's spindleage: In Great Britain, 56,576,108; United States, 30,579,000; the world, 142,000,000.

North Carolina ranks second in the spindleage of the Southern States (1910): South Carolina, 3,715,894, North Carolina, 2,939,576.

Location of factories in the South: In the Piedmont—relation of power to location of mills; relation of labor to the location of the mill; relation of raw material to the location of the mill.

*History.*—Growth of the factory: (1) Primitive wheels and looms; (2) primitive modes of carding and spinning and weaving; (3) primitive methods of power processes—water power, steam power, electric power.

Cotton as a factor in the history of the United States (its manufacture): (1) A factor in the Civil War; (2) in the economic history of the South; (3) in the social life of the South.

*Commerce.*—Transportation as a factor in the manufacture of cotton in the South: (1) Good roads; (2) vehicles; (3) points of shipment, access, etc.; (4) imports and exports.

**Labor.**—Labor as a factor in the manufacture of cotton in the South: (1) Mill workers—Wages, hours, living conditions, educational advantages; (2) relation of price of cotton to price of manufactured article, and to the wages paid the mill worker; (3) high cost of living in relation to the mill worker.

**Civics.**—The mill worker as a factor in the civil life of the community: (1) What he contributes; (2) relation of the employer; (3) what he exchanges for his labor; (4) what he receives for his labor.

### THE DAIRY PROJECT.

**I. Care of the cow.**—Clean milk: The milking house; washed with water from a hose before the cows are brought into be milked. (Inspect the milking house.)

The cows; brushed and combed and bags washed. (Observe milking.)

The dairyman; clean hands and clothing.

The milking utensils; pails, cans, and cloth strainers must be boiled in water every time they are used. They are aired and sunned in a screened cupboard, where flies can not reach them. (Inspect utensils.)

Cooling rooms; walls lined with thin strips of cork to keep out the heat. Ice stored at the top and temperature kept at 38 degrees. (Observation.)

Bottling the milk; milk bottled in the cooling room. One dozen bottles filled at a time and covers put on before air or dirt can get into the bottles. (Observation of bottling and inspection of bottling room.)

Food for the cow: Grass in the meadow or pasture lot in the summer time; hay from the barn and a warm bran mash in the winter. (Inspect the dairy lot.) Forage, silage, and cottonseed meal. (Observation of feeding.)

Cool, fresh water to drink. (Inspect the concrete water basin.)

Weaning the calf: Calf taken from its mother: Why? When?

Teaching the calf to drink milk from a pail. (Observation and inspection of calf house.)

**II. What the cow gives us.**—Milk, cream, butter, cheese, dried beef, gelatine, leather, glue, bone buttons, hair in plaster, tallow candles, soap, fertilizer. (Detailed study of any one of these products. A collection of these products mounted on a chart in the schoolroom, made from specimens brought in by the pupils.)

**III. The child's food.**—Milk, butter, cheese. "The first food a family should buy is milk." "The last food to be dispensed with is milk." (Material for these lessons found in the bulletin on Health Education, "Diet for the Child," United States Bureau of Education.)

**IV. History and geography** (includes number lessons, and special study of North Carolina's status in dairy products; Texas fever tick.)—Cows of olden times; relation to environment; structure, covering, prehension of food defense.

2. Study of product maps from the Department of Agriculture: Where cows are raised in the United States; where creameries are built in the United States; where cheese is made in the United States.

3. The cowboy on the western plains; driving to the round-up; in a stampede; the herd at night.

4. The cow's cousins: In America, the deer and bison; in Africa, the water buffalo; in India and Japan, the buffalo.

**V. Poems, stories, songs.**—The Farmyard Song; The Cow, The Friendly Cow; The Milkmaid, Æsop; Mooley Cow.

## THE FIGGERY PROJECT.

**I. Care of the pig.**—Hog wallows: A cool bath is soothing to a pig during the hot weather; it cleans the scruff from the skin and protects the pig from flies. A thin layer of crude petroleum on the top of the water will keep the pigs free from lice and other skin parasites. (Inspection of the pig wallow and observation of its use by the pigs.)

Food for the pig: Not adapted to living on corn alone, the pig needs a variety of food—corn, alfalfa, cowpea, and soy bean, with hay, wheat shorts, bran, tankage, skim milk, etc.

Pigs can be produced cheaper when pastures are used along with the grains, and in the South much cheaper than is possible in the corn belt. Clovers and alfalfa furnish better hog pastures than the nonlegumes. (Inspection of the feeding of the pigs in the piggery.)

Benefit of hog grazing; improving run-down land, fertilizing it, eating the weeds which the hogs relish, especially the common lamb's quarters and amaranths. The peanut is one of the best forage crops for hogs.

Economic value: Cotton following peanuts and grazed by hogs averaged an increase of 61.1 per cent, with an increase in value per acre of \$22.81; with soy beans and chufas, \$16.35 and \$7.68, respectively.

In the South pork can be made more cheaply than elsewhere. Money spent for meat by Southern people would remain at home; would affect cotton, because the farmer could hold his cotton crop if he had pork to sell, one of the best supplements to cotton crop.

One hundred and twenty-five dollars invested in hogs returns a sale of from 5,000 to 8,000 pounds of live pork in a year, or from two to four times the amount of the investment.

**II. What the pig gives us.**—Food—Pork, ham, sausage, lard, headcheese; bones for chicken feed, bristles for brushes; leather. (Detailed study of any one of these products.) (A collection of these products mounted on a chart in the schoolroom made from specimens brought in by the pupils.)

**III. History and geography** (includes number lessons and special study of North Carolina's status in pork production. Hog cholera).—

1. Relation to environment—covering, prehension of food, defense.

2. Study of product maps from the Department of Agriculture. Where pigs are raised in the United States; why North Carolina does not raise more pork; hog cholera, infection and immunity. Pig in China, Holland, and India. Pig's cousin—the wild boar, the hippopotamus.

**IV. Poems, stories, songs.**—The Farmyard Song; The Guinea Pig; The Story of Circe; Roast Pig, by Charles Lamb; The Pink Pig.

## THE POULTRY PROJECT.

**I. Care of fowls.**—Kind of fowls: General-purpose breeds—Plymouth Rocks, Wyandottes, or Rhode Island Reds. Egg breeds—Leghorns, Minorcas.

Size of flock: Depends upon available space and amount of table scraps. Not over 20 or 25 hens in a back-yard flock. Purchased in the fall, pullets rather than older hens so they will begin to lay before winter is over.

Housing: Satisfactory houses may be made from piano boxes, costing \$2.50 each, one box to 8 or 10 hens.

The yard: Inclosed with board or wire fence.

Feeding: All table scraps, kitchen waste, etc., should be utilized; scraps of meat and left-over vegetables make excellent feed. Other waste products from the garden, such as beet tops, turnip tops, carrot tops, potato parings, onion

tops, watermelon and cantaloupe rinds, the outside leaves of cabbage, waste lettuce leaves, bread and cake crumbs.

No spoiled food should be fed, and a dry mash may be added to the table scraps.

Feed at noon or at night, or both times, on a board and see that nothing is left to spoil.

A plentiful supply of clean, fresh water must always be available.

**Hatching and raising chicks:** Early in the spring, before May if possible, done with hens. A few day-old chicks may be purchased and reared if setting hens are not available. Chicks should not be fed until they are 24 hours old, then hard-boiled eggs and stale bread crumbs make the best food, the latter soaked in milk. Later feeding of grain, 2 parts wheat, 2 parts pinhead oatmeal, 1 part corn, 1 part rice, and 1 part millet seed; all grains cracked before mixing.

**Preserving eggs:** Packed the day they are laid, in water glass.

**Economic value of fowls and eggs:** Poultry converts table scraps and kitchen waste into wholesome and nutritious food in the form of eggs and meat. Each hen in her pullet year should produce 10 dozen eggs. The average size of a back-yard flock should be at least 10 hens. Thus each flock would produce in a year 100 dozen eggs, which, at 25 cents a dozen, would be worth \$25.

Back-yard poultry flocks help in reducing the cost of living, and supply eggs of a quality hard to purchase.

These eggs cost very little, as the fowls are fed upon waste materials.

II. *What the fowl gives us.*—Food—eggs, chicken meat, feathers, featherbone.

III. *History and geography.*—1. Relation to environment—structure, prehension, and defense.

2. Study of product maps; where poultry is raised in the United States; relation to amount of improved land, with special reference to North Carolina; effect of lice and mites and their control.

3. The hen's cousins—the pigeon and quail.

IV. *Poems, stories, songs.*—The Clucking Hen; The Story of Henny Penny; Feed the Flocks.

## II. THE PLYMOUTH PROJECT.

In the reorganization of the work of the mill-village school the daily program provided for an auditorium period which was used each day of the week by groups of children representing the different grades. Division 1 formed one group and included the kindergarten, the two first grades and the second. Division 2 comprised the two third grades and the fourth. Division 3 was made up of the fifth, sixth, seventh, and eighth. The groups met at different hours of the day for their exercises and came together once a week for a general auditorium period. The program for each group was similar in character and the general exercise partook of the best numbers from each division throughout the week. Too much can not be said in commendation of this period. It motivated the work of the school, it inspired the pupils to make their best effort to produce something which would be worthy of a place on the general program, and it welded the school together because a sympathetic understanding of the work of each grade was created by its presentation before the entire school.

The first half hour of the period was devoted to music, to chorus and solo singing, and to the learning of new songs. In the remaining 25 minutes the regular program was carried out. It was found necessary to indicate quite definitely the topic for each day in order to insure versatility and continuity in the exercise. On Monday a civic program was given, with reports on the civic interests of the village. On Tuesday experiments were made

before the pupils and activities presented, supplemented by reports of others which were being carried on by groups of pupils or by individuals in the different grades. Wednesday a literary program was rendered of readings, recitations, dramatization of stories, and posing of individual characters. On Thursday reports from papers and magazines on current events were given and items of news regarding the life of the village were reported.

An improvised auditorium was necessary because no provision had been made in the school for this activity. The village church was used until cold weather drove the children into the large gymnasium of the Young Men's Christian Association, where they were made welcome unless the room was being used by gymnastic classes. Sometimes the use of the grade room was necessary, and by sitting two in a seat closely crowded together the children carried out their program. Notwithstanding these handicaps the auditorium period proved a great success and a great incentive to the project work of the school. While many of these were minor projects, the "massing of the literature and music of some special subject or special day" suggests the development of a major project through several weeks of research and study. Such a study is represented by the story of Plymouth given in the tableau vivant form, of which the program and pictures are given here.

Every child in the school bore some part in the working out of this project. The stage setting was arranged by the boys to represent the forest background of the Plymouth picture. The costumes were planned in the classroom and made at home. All the stories that were told during the tableaux were given in the child's own words by one who had been chosen by the school to represent his classmates. "Thus," reports the principal of this enterprising school community, "our program was simply the outcome of regular classroom work and represents one of our major projects."

#### PROGRAM OF THE STORY OF PLYMOUTH IN TABLEUX VIVANT.

Scene I. Landing of the Pilgrims: Reading by a girl in the seventh grade.  
Boys' orchestra.

Scene II. The first wash day: Story by a girl in the third grade.  
Solo: Thanksgiving song by girls in fourth grade.

Scene III. Care of the baby: Story by girl in third grade.  
Solo: Lullaby.

Scene IV. John Alden and Priscilla: Reading from "The Courtship of Miles Standish."

Song: The First Thanksgiving Day: Second and third grades.

Scene V. The snake skin and the bullets. Story told by boy in the fourth grade.  
Boys' orchestra.

Scene VI. Treaty with Massasoit: Story told by boy in the sixth grade.  
Solo: Why Mr. Gobbler Changed his Tune, by boy in fourth grade.

Scene VII. Standish and his men find corn: Story told by boy in fourth grade.  
Boys' orchestra.

Scene VIII. Calling the Pilgrims to church: Story told by boy in the eighth grade.

Scene IX. The Pilgrims going to church.

Song: Thanksgiving Day: Fifth and sixth grades.

Scene X. The first Thanksgiving Day: Story told by boy in sixth grade.

Reading: President's Thanksgiving proclamation, read by boy in eighth grade.

Song by school: America.

## PLYMOUTH VILLAGE ON THE SAND TABLE AS IT APPEARED IN 1622.

The third-grade pupils in this school supplemented their study of the building activities in the village by a building project on the sand table. The town of Plymouth in 1622 was chosen because of its relation to the Thanksgiving program under way in all the grades and also because the simplicity of the project insured its success, although the pupils were without previous training in any of the modes of expression. Some retarded, over-age boys in the class were being held in school wholly through parental discipline and their whole-hearted cooperation was enlisted through their enthusiasm for this work. Recalcitrant members became eager and earnest, clumsy fingers deft and facile as they shaped with infinite care the buildings in this miniature community. Manners and customs and the characteristics of the Pilgrims and Indians were freely discussed during these activities in the schoolroom. Their hardships and fortitude and their mutual help and understanding, with something of the heritage bequeathed to us by this indomitable people, made their impression upon the boys and girls in this school. It is safe to say that more of the history of our early settlements was acquired during these periods than any amount of reading or study might have accomplished.

## BUILDING THE TOWN OF PLYMOUTH ON THE SAND TABLE.

The sand was dampened and then modeled to represent the contour of the country in and around Plymouth. The seashore stretched across the length of the table about midway between front and back, curving at the right and extending along the right end of the table to meet the right-hand corner at the back. The village hill, of which we hear so much, was modeled at the middle right and connected with a chain of hills along the right end of the table. The seashore thus formed was high and rocky at the right, but low and level at the middle front. Here lay the village, within the curve of the bay and sheltered by the hills along the shore. Over it all stood the forest, with here and there the stump of a tree which had been felled by a Pilgrim father. The village street ran along the shore from the left end to the hill at the right. Between it and the sea stood the six log cabins with Governor Bradford's house, which was also used as the church, across the street in the middle of the village. The *Mayflower* rode at anchor in the bay, and the famous rock was placed midway along the shore.

*Modeling the houses.*—Seven log houses were made of twigs and clay which measured when finished 4 by 3 inches. A flat, thin slab of clay for the floor of the house was laid on a piece of carboard and a rectangle 4 by 3 inches was drawn on it. Twigs three-eighths of an inch in diameter were cut to measurement, and rolls of clay the same size were modeled. The houses were built up in rectangular form over the diagram on the clay floor, first a roll of clay and then a twig, 4 inches long at the sides and 3 inches wide at the ends. These were pressed together to form the walls of the house, with spaces left for a door and window. The roof was a thin slab of clay cut in the form of a rectangle the size of the floor. It was bent slightly through the middle to form the peak of the roof and was pressed carefully into place on the top of the walls. A clay chimney was modeled and placed at the back of the house. Palisades of pointed twigs were built around each house after it was placed on the sand table. These twigs were buried in the sand one-third their length and the palisade when completed stood nearly as high as the house. The fort on the hill was made like the houses. It was square in shape, with a flat

roof and loopholes around the sides near the roof, through which the muzzles of the guns were pointed.

*Modeling the figures.*—Pilgrims and Indians were modeled in clay and were dressed appropriately in crêpe paper. The women's dresses and men's hats and capes were made of black crêpe paper, and the women's caps, kerchiefs, and aprons of white crêpe paper. The Indians were dressed in blankets of tan-colored crêpe paper lined with red and white and brown feather headdresses, cut also of crêpe paper.

Many activities were represented by these figures, the Pilgrims busy at their tasks and the Indians hiding behind the trees watching them.

#### A THANKSGIVING PLAY—THE LOST PRINCE.

This little play was taken from a Thanksgiving story which appeared several years ago in St. Nicholas. It has many values. It brings the atmosphere of the first Thanksgiving time clearly before the children. It depicts the manners and customs of the Pilgrims and Indians and their friendly intercourse. It affords an opportunity for every pupil in the class to take some part in the play.

It was written by a class in the third grade during their language periods and developed unusual skill in the use of oral and written language. The picturesque costumes of the Pilgrims and Indians, the touch of romantic adventure which the episode develops, and the dramatic culmination of the movement make it a delightful piece of play acting.

*Setting of the play.*—Branches of trees at the back of the stage will give the forest background needed for the three acts of the play.

In the first act the gable end of a house is seen among the trees. This may be made of a light wooden framework covered with paper, with door and window showing.

The seashore in the second act may be represented by a stretch of blue cloth or canvas at the right of the stage.

The feast occupies the foreground in the third act, two long tables, one of Indians and one of Pilgrim men, with Pilgrim women serving.

#### THE LOST PRINCE.

##### CHARACTERS..

Stephen Hopkins, *a Puritan father.*  
 Elizabeth Hopkins, *a Puritan mother.*  
 Giles Hopkins, *a little Puritan boy.*  
 Constance Hopkins, *a little Puritan girl.*  
 Governor Bradford, *the governor of Plymouth.*  
 Massasoit, *an Indian chief.*  
 Wamsutta, *his little son.*  
 Samoset, *an Indian friend of the Puritans.*  
*Puritans and Indians.*

Time—Thanksgiving, 1622.

##### ACT I.

SCENE I. *Clearing in the forest, with Puritan house in the background. Door opens and Mr. and Mrs. Hopkins come out with bread and pies in their hands. Giles and Constance follow them to the door. All are dressed in Puritan costume. Constance is wiping her eyes on her apron.*



*Mr. Hopkins.* Remember, children, you are to stay in the house until we come home.

*Constance.* Won't you please bring me some cake?

*Mrs. Hopkins.* If you are good children, I will bring you some of Mrs. Allerton's pound cake.

*Mr. Hopkins.* You must not leave the house. There may be Indians in the forest.

*Giles.* The Indians will be at the feast, won't they?

*Mr. Hopkins.* Massasoit and his men will be there, but the Narragansetts are on the warpath. They may be hiding in the forest now.

*Constance.* Oh, I'm afraid, mother.

*Giles.* Pooh! Don't be a "fraid cat," Constance. I'll take care of you.

*Mr. Hopkins.* Nothing can harm you if you stay within.

*Mrs. Hopkins.* Do as father says, and keep indoors. Good-by.

*Giles and Constance.* Good-by.

*(Father and mother disappear in the forest and children go into the house and shut the door.)*

SCENE II. *Same. Children standing at the window. Giles sees a squirrel run across the clearing in front of the house. They laugh, then open the door and come out.*

*Constance.* Where did it go?

*Giles.* It ran this way. *(Running toward the woods.)*

*Constance.* Let's catch it, and make a pet of it.

*Giles.* I'll make a cage for it.

*Constance.* What color was it?

*Giles.* It was gray, with a big bushy tail.

*Constance.* *(Starting toward the woods.)* Oh, there it is in that tree.

*Giles.* There it goes, see it run. Come on, I know I can catch it.

*(The children chase the squirrel around in front of the house, until it leads them away into the forest.)*

SCENE III. *The seashore. Constance kneeling and crying. Giles trying to comfort her.*

*Giles.* Don't cry, Constance, I can find the way.

*Constance.* That is what you always say, and we are farther away than ever.

*Giles.* No, we're not, Constance; we'll find Plymouth just around this bend. I am sure we are coming toward it.

*Constance.* Oh, why did I ever go out of the house!

*Giles.* It was that wicked squirrel. Maybe it was the devil tempting us. Governor Bradford says he can change into anything.

*Constance.* He did it just to try us. Oh, what will father and mother say?

*Giles.* Never mind, Constance, let's go on. We'll never find Plymouth sitting here and crying. Let's walk on.

*(Wamsutta, a young Indian boy, comes walking toward them. He sees that Constance is crying.)*

*Giles.* Look, Constance, look. See who's coming.

*Constance.* *(Looking up, and then rising to her feet.)* Oh, Giles, it's an Indian. A little boy. Aren't you afraid of him?

*Giles.* No, I'm not. I'm as big as he is.

*Wamsutta.* How do, English?

*Giles.* How do you do? (*Constance hides behind her brother. Wamsutta begins to dance.*)

*Constance.* What's he doing now?

*Giles.* Why, he's dancing. It is an Indian feast dance. I've seen Samoset do it lots of times.

*Constance.* He wants to be friendly.

*Giles.* Yes; and I want to go home.

*Constance.* (*Beginning to cry again.*) Oh, Giles, shall we ever find Plymouth?

*Wamsutta.* (*Pointing and nodding toward the forest.*) Plymot? Plymot? Come. Go to Plymot.

*Giles.* Look, Constance, he is pointing and trying to say "Plymouth."

*Constance.* Do you think he knows where it is?

*Wamsutta.* (*Walking toward the forest and pointing.*) Plymot. Go Plymot. (*He leads and the children follow him into the forest.*)

## ACT II.

SCENE I. *Thanksgiving Day in Plymouth. Two long tables set with food.*

*Puritan men at one. Governor Bradford seated at the head, with Stephen Hopkins at his right. Indians at the other table, with Massasoit at the head and Samoset at his right. Puritan dames serving. Massasoit does not eat nor speak; looks down at his plate, lost in thought.*

*Governor Bradford.* (*To Stephen Hopkins.*) Why is Massasoit so silent? Is he angry?

*Stephen Hopkins.* I do not know. He has eaten nothing.

*Governor Bradford.* I am afraid he is offended. He is our only friend in all this wilderness.

*Stephen Hopkins.* We could ill afford to lose his friendship.

*Governor Bradford.* The Narragansets are uprising. We shall need the protection Massasoit can give us.

*Stephen Hopkins.* (*To Mistress Hopkins, who is serving near them.*) Elizabeth, dost know why Massasoit is silent? Is he ill?

*Mistress Hopkins.* No, Stephen, I do not know. I saw he was sad and silent.

*Governor Bradford.* I am afraid he is angry.

*Mistress Hopkins.* He is thinking of something far away.

*Governor Bradford.* I hope he is not plotting against us.

*Mistress Hopkins.* Samoset will know, and he will tell us. He is our friend.

*Governor Bradford.* Send Samoset to me; I will ask him.

(*Mistress Hopkins goes to Samoset and speaks to him quietly. Samoset rises from the table and goes to Governor Bradford.*)

*Governor Bradford.* Hast noted Massasoit to-day, Samoset?

*Samoset.* Yes; he eats not, nor speaks.

*Governor Bradford.* Dost know the cause? Is he angry with the people of Plymouth?

*Samoset.* Nay, he hath great sorrow. He hath lost his only son.

*Governor Bradford.* Is he dead, Samoset?

*Samoset.* Nay, he hath been stolen. The Narragansets have taken him.

*Governor Bradford.* Can not Massasoit rescue him?

*Samoset.* He is not strong as the Narragansetts. If Massasoit make war, they kill the child.

*Governor Bradford.* How could they take him?

*Samoset.* We are away at war. They come in his wigwam and steal the child away. We come home. He is gone.

*Governor Bradford.* 'Tis a weighty sorrow. I have much feeling for the sad father.

*Samoset.* The great chief speaks not till his son come back.

*Governor Bradford.* Can not Massasoit rescue him?

*Samoset.* He is not strong like the Narragansetts. If Massasoit make war, they kill the child.

*Governor Bradford.* Tell your chief we sorrow with him. If he needs, we will help him.

*(Mistress Hopkins passes across to the table with a plate in her hand. Constance runs out of the forest to her and buries her face in her mother's dress. Giles and Wamsutta are seen standing behind a tree.)*

*Constance.* Oh, mother, we were lost, and could not find you anywhere.

*Mistress Hopkins.* Lost in the forest! How did you ever find us?

*Constance.* A little Indian boy showed us the way.

*Mistress Hopkins.* What will your father say?

*Mr. Hopkins.* Constance, how came you here? Where is your brother?

*Constance.* He is there. *(Pointing to the tree.)* Oh, mother, I am so sorry!

*Mr. Hopkins.* Giles, come here.

*(As Giles comes toward his father, Wamsutta steps into the clearing and stands looking at Massasoit. Massasoit looks up and sees the boy. He strides over to him, lifts him up on his left arm, and raises his right hand.)*

*Massasoit.* Joy of my life, warmth of my heart, light of my steps, sunshine of my wigwam, thou art come back to me!

### III. BUILDING A FARM ON THE SAND TABLE.

#### A PLAY PROJECT.

The building of the farm on the sand tables is a project which has been frequently used in primary and kindergarten schools as a center of interest in the daily program. Such a study is rich in subject matter. From the art side it offers a wide field of selection. It possesses also a broad historical background and a voluminous literary content and presents numberless opportunities for the presentation of problems in nature study.

The activities of the farm are varied and suggest many projects for the primary grades. These farm problems make an especial appeal to the child because his larger interest in life lies in the matter of feeding. A close connection is easily formed between this interest in his consumption of food and the activities that produce it, and this affords most excellent material for the problem-project type of instruction.

#### OUTLINES ON THE FARM STUDY.

##### Subjects of study:

1. Agriculture: Wheat; corn; potatoes.
2. Animal life: The horse; cow; sheep; pig; hens and ducks; bees.
3. Shelters: House; barn; henhouse; windmill; pigpens; dovecote.
4. Tools: Plow; drag; scythe; hoe; rake; thrasher; ax; saw.
5. Gates and fences.
6. Vehicles: Carts; wagons.
7. Mills.

*Sources of impression.***I. Nature study:**

1. Agriculture: Form, cultivation, and use of wheat, corn, and potatoes.
2. Animal life: Structure, care, and use.
3. Buildings: Suitable materials.
4. Tools: Raw and manufactured materials.
5. Vehicles: Application of steam and electricity.
6. Mills. Application of steam.

**II. Art:**

1. Agriculture: The Gleaners; The Sowers; The Harvest Moon; The Angelus.
2. Animal life: The House Fair; The New Born Calf; The Churning; The Shepherdess; The Sheepfold; A Barnyard in Normandy; Feeding the Hens; The Orchard.
3. Shelters: Mount Vernon; Ann Hathaway's Cottage; The Woodcutter.
4. Tools: The Man With the Hoe; The Song of the Lark; Ploughing; The Haymakers; The End of the Day.
5. Vehicles: Meeting of the Ways.
6. Mills: Primitive mills.

**III. History:**

1. Agriculture: Cortez introduces wheat into Mexico. Pilgrims discover corn. Wild potatoes in Virginia.
2. Animal life: The horse in Mexico; Sacred cow in India; Shepherds and sheep of olden times; The wild boar; The eider duck; The Pilgrim's turkey; Wild honey and beeswax.
3. Buildings: Homes in other lands. Cliff dwellers, Zuni Indians, Forest Indians, Longhouse Indians, Eskimos, Hottentots, and Pilgrims.
4. Tools: Lincoln's boyhood on a farm; Washington's boyhood on a plantation; Primitive tools.
5. Vehicles: Evolution of wheeled vehicles.
6. Mills. Primitive mills.

**IV. Stories, songs, poems, and supplementary reading:**

1. Agriculture: (a) Stories: Ceres; Little Red Hen; Story of Joseph; Redheaded Woodpecker; King Alfred and the Cakes; Black Beauty; Io; Arachne; Circe; Little Hen; King Solomon and the Bees; The Walnut Tree that Wanted to Bear Tulips; Peter, Paul, and Espen; The Chariot Race; Will of the Mill. (b) Poems: Ploughman; The Husking; The Potato; The Arab's Farewell to His Horse; The Friendly Cow; Little Bopeep; The Three Little Pigs; The House in the Sun; To a Honey Bee; I Remember; The Village Blacksmith; Boy Lives on our Farm; The Miller of Dee. (c) Songs: Alice's Supper; Swing the Sickle; Busy Farmer; A Gallop, A Trot; Thank You, Pretty Cow; Song of the Shearers; The Pigs; Quack, Quack, Says the Duck; A Jolly Little Rover; The Carpenter; The Blacksmith Over the River; The Mill. (d) Reading: The Story of Joseph; Mondamin; A Wild Horse; The Dog in the Manger; The First Weaver; The Wild Hog and Sharp Tooth; Little Duck and North Wind; How Bodo Found Wild Honey; The Tree and the Woodcutter; Bodo's Hammer and Knife; Children of the Plains; Children of the Cliffs.

## REFERENCES.

Art: Perry pictures.

Literature: Greek Myths, by Agnes Cook; Fifty Famous Stories, by James Baldwin; Black Beauty, by Anna Shewell; The Chariot Race (Ben Hur), by Lew Wallace; Will of the Mill, by Stevenson.

Poems: Lowell, Whittier, Stevenson, Mother Goose, Longfellow.

Songs: Eleanor Smith, Gaynor.

Readers: Dopp's Tree Dwellers; Fox's Indian Primer; Æsop's Fables; The Bible.

*Modes of expression.*

## I. Telling:

Reproduction of stories, description of nature observations, and the re-counting of historical episodes and narratives.

## II. Drawing on the blackboard, painting, and cutting colored posters:

Representation of the activities of the farm; the animal life, and the shelters; tools and vehicles on the farm.

## III. Making and doing:

1. Agriculture: Sow seeds on sand table in appropriate fields. Germination; capillarity of soils; pollization; visit a farm, observe plowing, sowing, etc.; visit a mill, observe process of grinding wheat; visit a bakery, observe process of making bread; making bread in school; cooking cereals; canning, preserving, drying fruits; making jelly; making maple sugar.

2. Animal life: Making butter, cheese, and curdles; cooking eggs; making soft soap.

3. Buildings: Making house, barn, henhouse, windmill, pigpen, dovecote out of clay or manila paper; making gates and fences, cart, wagon, and sleigh out of wood and manila paper.

4. Tools: Cutting from tin—plow, drag, scythe, hoe, rake, ax, saw; making thrasher out of manila paper.

5. Mills: Making flour mill and wheat elevator out of manila paper.

## IV. Modeling:

1. Agriculture: Model wheat, corn, potatoes, before and after germination.

2. Animal life: Model horse, cow, pig, hens and ducks, and place them in fields on the sand table.

3. Shelters: Model buildings.

4. Tools: Model tools in clay.

5. Model primitive mills: Cliff dweller's mealing stones; Zuni turning stones; water mill; windmill.

## V. Gesture:

Stories, songs, poems, and reading lessons reproduced in pose and dramatization.

## VI. Writing:

Development lessons in reading and language, reproduction of stories, and original accounts of specific lessons given in the subjects of study.

## NUMBER VALUES IN THE BUILDING OF A FARM ON THE SAND TABLE.

*Out of doors:*

Material: Tape measure, twine, and pupils.

Statement: 1 acre equals 8 rds. by 20 rds.

1 rod measured on the playground.

1 sq. rd. measured on the playground.

1 acre measured on the playground.

*In the schoolroom:*

**Material:** Rules, pencils, and checked paper.

**Statement:** 1 rd. reduced to  $\frac{1}{2}$  in.

1 picture rod on paper equals  $\frac{1}{2}$  in.

1 picture sq. rod. on paper equals 1 check measuring  $\frac{1}{2}$  sq. in.

1 picture acre on paper equals 8 checks by 20 checks or 4 in. by 10 in.

1 sheet of checked paper measures 8 in. by 10 in.

4 picture acres can be drawn on 1 sheet of checked paper.

*On the sand table:*

**Material:** 24 sheets of checked paper with 4 picture acres on each.

**Statement:** 1 rd. equals  $\frac{1}{2}$  in.

Sand table measures 32 in. by 72 in.

Reduced to rods, equals 64 rd. by 144 rd.

Area of sand table covered with 24 sheets of checked paper with 4 acres in each.

Margin on two sides left for roads.

Counting picture acres on the sand table.

There are 56 acres in our farm.

Laying out the sand table in fields—16 acres of corn, 8 acres of millet, 12 acres of meadow, 24 acres of wheat, and 12 acres of oats, 16 acres for farmyard, and 8 acres for orchard.

## IV. BUILDING A TOWN ON THE SAND TABLE.

### A PLAY PROJECT.

The building of a town on the sand table offers an opportunity for concrete lessons in civic life through a study of the problems which the child must meet in his everyday experiences. The town government, the laws of conduct in public places, and many of the facts concerning drainage, sewerage, and sanitation may be impressed by this mode of teaching. Wholesome forms of recreation may be suggested, and ways and means indicated by the teacher whereby the children in a town may help to beautify it, to improve its appearance, and to make it a pleasant place in which to live.

The choosing of a profession, a trade, or an occupation by a child who assumes some of the responsibility of the character he represents, even in play, must lead him to appreciate the service which the older members of his community render to the people with whom they live.

1. *Laying out the town on the sand table.*—A group of children from the first to the fifth grades were building a miniature town on the sand table. Streets had been laid out and the town platted into blocks and town lots. A central square, in which the courthouse, the church, and the school were to be set was surrounded on four sides by streets and business block after the plan of many county seats in this country.

2. *Selecting and fencing the lots.*—The home lots were chosen in the same way that homesteaders select their farms in the West, by right of first possession. In the schoolroom the children swarmed around the table when the signal was given and located their claims. When the fencing operations began each child, with a small bundle of toothpicks, fenced in his lot by sticking the toothpicks in the wet sand along the line of his boundaries.

3. *Government of the town.*—The town government was organized by the class and children selected by them to administer it. Laws of conduct on the street and in public places were discussed. One child, speaking evidently

from a full experience, announced, "You don't dare snatch an apple off the fruit stand," and another informed the class with a solemn shake of the head, "If you ride a bicycle on the sidewalk, you get pinched."

4. *Professional life and business life.*—The professions were represented by children whose fathers enjoyed distinction as physician, lawyer, minister, or professor. The little girls chose the womanly occupations, those of milliner, school-teacher, seamstress, and clerks in the post office and the dry goods store. The butcher, the grocer, the druggist, and the merchant were all represented by their tiny shops on the main thoroughfare of the town. The milliner shop, made of manila paper, and measuring just 2 inches by 1 inch, sported a gay front window, with hats and bonnets painted on in the very latest models.

5. *Drainage and sewerage.*—Drainage and sewerage, street lighting, and paving were studied and a fund of experience revealed by children who had stopped along the street on their way to school to look into holes under sidewalks that had been opened for pipe laying and sewer cleaning. Bridges were built across the river that ran through the town, and pavement laid along the street with blocks of clay.

6. *Amusements.*—The last demand that came from this small community was for some form of amusement. The circus appealed to the popular fancy, and an open field at the end of the town was selected where a tent was erected and a circus parade was planned for. So eagerly was the material for this popular pageant contributed that when the circus procession was finally formed it extended twice around the town and out even to the door of the tent.

*Stories, songs, and poems.*—Stories, songs, and poems for the work in literature were selected which had a bearing on the various subjects of study. These were taught to the children and then used as a basis for reproduction in the different modes of expression. "Romulus and Remus, and the Founding of Rome," is a good example of this type of story. Songs of the trades, like "The Carpenter," and poems like Longfellow's "My Lost Youth" not only have a special significance from the tropical standpoint but are beautiful in themselves and well worth a study by the children.

*Geography.*—Even the circus parade disguised itself as a geography lesson when a small boy inquired of the class, "Where do all these animals come from, anyway, I'd like to know?" The circus was soon forgotten in the deluge of information concerning animal habitat with which the boy was overwhelmed.

*Reading and language lessons.*—Descriptive sentences, formulated by the class, concerning the fascinating processes of town building were used for the reading and language lessons.

*Number lessons.*—A constant demand for measurement in platting the town, in making the buildings, in buying and selling commodities, gave rise to many practical problems of a pertinent character.

*Map drawing.*—Out of the demand for information regarding the plan for these lessons, maps were drawn and descriptions written by the children for other grades who desired to work out a similar project.

*Modeling and making.*—Cardboard sloyd played an important part in the building projects. The houses, the shops, and the other public buildings were made of manila paper and cut and pasted to definite measurements.

*Blackboard drawing; painting and making colored posters.*—Reproductions in blackboard drawing of the town and its special features were used for lessons in chalk modeling. Landscapes of towns were painted and posters were made during the art period.

*Posting and dramatizing.*—Stories were told of the building of towns of peculiar construction and origin and of founders of some of the old historic cities, which led to the dramatization of many of the incidents in the story.

*Children's initiative.*—Henry was just 5, of the right kindergarten age, yet quite mature enough to bear all the responsibilities of the citizenship which had been assumed by the older members of the school community. When the children were fencing their lots, Henry's deft little fingers had finished the front fence and those on either side of his lot before the other pupils had fairly begun. While they were cutting and pasting their tiny pasteboard houses, Henry had finished his and had made in addition a smaller one which he called his "garage." When the houses were all finished and placed in their respective owner's lots—Henry had secured a corner lot of superior location on the opening day—something new and strange occurred each day on his little domain. Some one noticed a pile of toothpicks behind his garage after the fencing was finished and asked him how he had acquired them.

"Well," he explained, "I picked them up around the town after the others had done fencing their lots, and now if you want any more wood, you'll have to buy it from me."

One morning he surprised us with a new line of fence running back from the road through the middle of his lot.

"You see," he announced, "I had a larger lot than I needed, so I fenced off half of mine to sell."

Side lights were thrown upon the child natures within the class which revealed many personalities as interesting as Henry's proved to be. Adjustment to his relationships in home and school communities became easier for each child as he understood their significance through the medium of the play home and school community.

## V. A SCHOOL PLAY AS A PROJECT IN HISTORY AND LITERATURE.

A school play which was written and acted by the fifth grade in a large city school is an excellent example of the unifying influence of a project upon a disorganized group of boys and girls in one of the middle grades. The pupils in this group were segregated from the grade because for various reasons they were not fully prepared for fifth-grade work as regards especially the technical subjects. Some project was sought by the teacher in charge which would coordinate the work and at the same time build up a morale within the group of responsibility and determined effort. They were all highly endowed with histrionic ability, which perhaps accounts for their failure in the fundamental subjects which had been taught to them largely in the form of abstract drills. As the play developed they were brought together into complete unity of purpose through their interest in the working out of their project.

The play centers around the historic episode of Roland and Oliver and was taken from one of their lessons in medieval history. Briefly stated, it is this: Charlemagne, the king, becomes estranged from his sister, Bertha, through her marriage with the false knight Milon. He banishes them and they flee to Italy. After their son, Roland, is born Milon deserts Bertha, who is forced to live in great poverty in a hut in the forest near the town of Sutri, where Oliver, the governor's son, resides. A warm friendship springs up between Roland and Oliver and the two boys grow to young manhood in a constant companionship. Oliver protects his friend Roland and his mother from many hardships and often brings them food to stay their hunger.



The play opens with a scene in the forest where Bertha and Roland are gathering firewood. Their little hut is seen in the distance.

The second scene is the banquet given by the governor in honor of Charlemagne, who with his retinue of knights and servants, and accompanied by his two daughters, the cardinal, and the lords and dukes from his court, are traveling through the country on a tour of inspection.

The reconciliation between Bertha and Charlemagne and the bestowing of knighthood upon the young Roland by his emperor uncle form the pivot upon which the play rests.

### HOW CHARLEMAGNE FOUND ROLAND.<sup>1</sup>

A PLAY IN TWO ACTS BY GRADE V.

#### FOREWORD.

By one of the pupils.

We have been reading the history of the Middle Ages and have found the story of Roland and Oliver very interesting. We have written a play about it called "How Charlemagne Found Roland." The characters are Charlemagne, Emperor of France; Bertha, his banished sister; and her son Roland; the governor of Sutri and his son Oliver, the friend of Roland; the Princesses Adelaide and Berthaide; the knights, Duke Ogier, Ganelon, Gerier, Gerien, Richard the Old, and others; the cardinal, my Lord Turpin, with pages and servants.

#### ACT I.

##### SCENE I. *A rude hut, Bertha and Roland outside the door.*

*Roland.* Oh, why has my friend Oliver deserted me?

*Bertha.* Oliver awaits the coming of the great Charlemagne.

*Roland.* And is Charlemagne to visit our town to-day?

*Bertha.* Yea, my son.

*Roland.* And will Oliver see him?

*Bertha.* Surely he will see him—is not Oliver the governor's son?

*Roland.* Ah, then Oliver shall tell me of him.

*Bertha.* Charlemagne is a great emperor, my son.

*(Enter Oliver.)*

*Oliver.* Oh, Roland, Charlemagne feasts to-day on the village green, with all his knights about him. Come with me and see him.

*Roland.* Oh, mother, I shall see him, I shall see him.

*Bertha.* I would that I had food to set before thee, ere thou goest out.

*Roland.* Never mind, mother, I shall find some food.

*Oliver.* Oh, Roland, Charlemagne has a long white beard, and a crown upon his head, and his daughters, the Princesses Adelaide and Berthaide, are with him.

*(Exit Roland and Oliver.)*

*Bertha.* Charlemagne, Charlemagne, why hast thou treated me thus? Thou hast so much, while Roland and I are starving.

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<sup>1</sup> "This, the only complete play reprinted here, is reproduced as a delightful sample of childish play writing, and as an instance of a teacher's (in this case Miss Florence Fox's) skill in evoking values from her work in literature and history." From "Festivals and Plays," by Percival Chubb, Harper & Bros., publishers, New York and London.

SCENE II. *The same. Roland enters with food.*

*Roland.* Oh, mother, see what I have brought thee.

*Bertha.* And pray, my son, where didst thou find this food?

*Roland.* I saw the king's servants carrying it, and I took it.

*Bertha.* Oh, my son, my son, thou hast done wrong.

*Roland.* But why should we starve when Charlemagne has plenty?

*Bertha.* What will Charlemagne say? He will surely banish thee.

*Roland.* Do not worry, mother. Charlemagne will not harm me.

*Bertha.* But, oh, Roland, Roland, my boy, Charlemagne hath power; he could take thee from me.

*Roland.* I am not afraid of that, mother. Nothing shall separate us.

*Bertha.* Charlemagne can be kind, but he can be very cruel, too. (*Sighs.*)

*Roland.* Dear mother—didst thou ever know him, mother?

*Bertha.* Yea, my son, I knew him well in the long ago, in the long ago.

*Roland.* Oh, mother, why sighest thou?

*Bertha.* I sigh at the thoughts of long ago when I was happy.

*Roland.* I would that I were a man, then I could give thee a beautiful home and make thee happy.

(*Enter Oliver.*)

*Oliver.* Roland, the knights, Charlemagne's knights, are coming for thee.

*Bertha.* Oh, Roland, I said they would punish thee.

(*Enter knights.*)

*Servant.* My lord, this is the boy who took the food.

*Oliver.* Do not harm him. My father shall pay for the food.

*Turpin.* Nay, not so, young Oliver. The king demands the boy.

*Bertha.* Oh, Roland, Roland, what shall I do without thee?

*Turpin.* (*Kindly.*) Good woman, the king may pardon him.

*Bertha.* Oh, take him not away—I know I shall never see him more.

*Ganelon.* Come, Turpin; too long we stay; the king awaits us.

*Bertha.* Oh, good sir, can ye not pity me, can ye not help me?

*Gerier.* Come, come, the king doth wait. I fain would end this business.

*Bertha.* How hard ye are to me and mine. Oh, what shall I do without my Roland?

*Roland.* Can ye not leave me with my mother? Who will care for her when I am gone?

*Oliver.* I will care for her, gentle Roland; do not fear for her; look to yourself, dear friend.

*Roland.* How can I leave thee, mother, so sad thou art, dear mother?

*Oliver.* (*To Turpin.*) Oh, Sir Knight, does not some pity for this poor woman stir thee?

*Turpin.* Nay, Oliver, thou must not seek to change a king's command; he bade us fetch the boy. We must obey him.

*Oliver.* Then I must seek my father—surely he will help us, Roland.

*Roland.* (*As the knights lead him away.*) Farewell, dear mother; do not grieve; I shall see thee soon again.

(*Roland goes off with the knights.*)

*Bertha.* (*Wringing her hands.*) What will Charlemagne do? How will he punish my noble boy? Oh, if I should dare to tell him who I am it might gain pardon for my Roland. 'Twere better thus to try than to do nothing. I will away to the king.

## ACT II.

SCENE I. *Table on the village green; Charlemagne and knights about it.*

*Adelaide.* Oh, father, why hast thou sent for this beggar-lad? Do not punish him. Thou hast food to spare.

*Charlemagne.* I seek the lad for other cause than that he took the food. Last night I dreamed, and it doth trouble me. I fain would know what meaneth it.

*Berthaide.* Oh, dearest father, tell us of this dream.

*Charlemagne.* I saw a beggar-lad—a hungry look was in his eyes. They still do haunt me.

SCENE II. *Scene and characters the same.*

*Duke Ogier. (Springing up.)* Ah, here's the rascal who took the food.

*Governor. (Hastily.)* Not so, my lord; 'tis my good son, my Oliver. *(To Oliver.)* How now, my son? What message hast thou? Thy mother, is she ill?

*Oliver.* Nay, not so, good father. I come to speak for Roland.

*Governor.* Thou must not come before the king with thy own business. Haste thee away. *(Aside.)* So 'twas the beggar-boy who took the food.

*Charlemagne.* Nay, let the lad speak. What sayeth he?

*Governor.* I crave his pardon, my lord. 'Twas his friend who took the food—a beggar-boy whom he doth love most truly.

*Charlemagne.* Speak out, my lad; what sayest thou?

*Oliver.* Oh, sire, if thou but knew how poor Roland is, and how his mother suffers! The only food she hath he bringeth her.

*Charlemagne.* And so he taketh mine. 'Tis wrong to steal, is't not? Hast ever heard it said, "Thou shalt not steal"?

*Oliver. (Sobbing.)* Ah, my lord, but they were starving.

*(Enter Turpin.)*

*Turpin.* My lord, we have the lad who took the food. 'Twere some excuse; he took it for his mother.

*Charlemagne.* So thou wouldst beg a gentle sentence for him, my good Turpin? And this boy but now was pleading for him. It seems a beggar-boy can hold a friend.

*Turpin.* Aye, my lord, he is a goodly lad, and his mother is most sad to look upon.

*(Enter Ganelon and Gerier with Roland.)*

*Gerier.* Here's the knave, my lord, who hath so far upset this morning's business.

*Charlemagne.* The lad! the lad! the very lad—'twas he I saw in my dream.

*Roland.* Most gracious king, I am the lad who took the food. So long, my lord, have we been hungry—so often, sire, have we been starving. Our only home a cave; our only food what Oliver brings. How can I bear my mother's tears? How can I see my mother suffer? 'Twas for her I took the food. I then have eaten none of it.

*(Bertha rushes in.)*

*Bertha.* I come to plead for my boy, my Roland. Be gentle with him, oh, most gracious emperor. He is noble, he is brave. I pray thee do not harm him.

*Charlemagne.* My dream! my dream! Do not weep, good woman. Come close and let me see thee.

*Bertha. (As he looks at her.)* Dost thou not know me, Charlemagne? Oh, brother, dost thou not forgive thy sister Bertha?

*All.* Sister! Bertha!

*Oliver.* Roland, Roland, didst thou hear?

*Roland.* Mother, mother, is't true, dear mother?

*Bertha.* Yes, 'tis true, is't not, my brother.

*Charlemagne.* 'Tis true, gentle sister. And where is thy false knight, Milon?

*Bertha.* He left us long ago, when Roland here was but a babe.

*Adelaide.* Ah, dear Aunt Bertha, glad am I to see thee.

*Berthaide.* Aye, dear aunt, glad I am to see thee.

*Knights.* All hail the Princess Bertha. All hail the young Prince Roland!

*Charlemagne.* (*To Roland.*) The beggar-boy a royal prince! Yet thou wast never poor, so rich thou art in friends. Who owns a friend like this lad Oliver hath that which gold can never buy. I, too, would have thee for my friend, young Roland. What sayst thou?

*Roland.* So long as I shall live, most gracious king and dearest uncle.

*Richard the Old.* Our song, our song—"The Sword of Charlemagne."

*Gerter.* For Roland, too, shall follow "The Sword of Charlemagne."

(*All sing the "Sword of Charlemagne."*)

Where'er he leads we follow  
To honor and to fame.

We follow, ever follow,  
The Sword of Charlemagne.

Where'er he leads we follow,  
Thro' Norway and thro' Spain.

We follow, ever follow,  
The Sword of Charlemagne.

#### VALUES OF THE PLAY, HOW CHARLEMAGNE FOUND ROLAND.

##### I. *Historical.*

###### 1. Manners and customs of the time:

(a) Dress: King in crimson robe with ermine cape and gold crown. Knights in black skirts and capes with silver helmets. Each carries a black shield with silver cross, and long black spear with silver tip. Roland in peasant dress, a black smock and short trousers. Oliver in dull green embroidered smock and short trousers. Turpin in cardinal's scarlet robe and cap. Bertha in loose gray dress and long gray veil with silver fillet. The governor in hose and doublet of dull blue, embroidered. Lords in hose and doublet of white and silver. Pages in white and green, short skirts and pointed caps. Servants in long brown smocks. Daughters in loose pink and yellow robes, white veils, and gold fillet.

(b) Food: Fruit and fish and venison, with wine.

(c) Modes of warfare: Combats with long spears and defense with shields.

(d) Modes of travel: Usually on horseback, and in palanquins.

2. Biographical. Character study of important persons: (a) Charlemagne, the king; (b) Roland, the peasant; (c) Oliver, the governor's son; (d) Bertha, Charlemagne's sister; (e) Turpin, the cardinal; (f) knights, Gerien, Gerler, etc.

3. Ethical lessons: (a) Friendship (Oliver's defense of Roland); (b) Courage (Roland's defense); (c) love (Bertha's defense).

##### II. *Literary.*

1. Language (written): Play written by children for home work.

2. Language (oral): Discussions of play and parts read by pupils.

3. Language training: The parts, written at home, were submitted to the entire school for criticism, and the best was selected for permanent form. This created much discussion of literary forms and exercise of literary discrimination: (a) dialogue; (b) dramatic form of expression; and (c) analysis of characters and what each might say under certain conditions.

4. Reading: The parts were read by different pupils before the entire school, and the best reader selected by vote to take the part in the play. The effect of these reading exercises was felt in all the oral reading done thereafter by this group.

5. Song: Verses of the song were composed by pupils in the same way.

6. Music: After the verses were decided upon, the music was composed by the same method.

### III. *Manual training.*

1. Utility motive: Making of weapons in the sloyd room for use in the play aroused interest and enthusiasm.

2. Educational: It also led to an enthusiastic study of modes of warfare, weapons used, etc.

3. Technical training: (a) Spear—long handles of wood painted black and sharp point covered with tin foil; (b) shields—large wooden shields painted black with silver cross; (c) helmets made of tin, cut and held in form by rivets.

### IV. *Ethical.*

1. Cooperation: A disorganized group brought into complete unity through their interest in this play.

2. Altruism: The group selected by vote the best papers for permanent form and all personal preferences were subordinated to the general good. In the same way the prominent characters were selected by popular vote.

3. Ethical lessons: Without doubt the lessons of loyalty and service and filial affection which the play sets forth had its effect upon the individual members of the group, leaving a vivid impression which the ordinary study of historical characters can never do.

4. Color scheme: Act I. The dark forest as a background. Roland in black, Bertha in gray. Act II. Two long tables with ends wide apart at the front of the stage and extending back to meet in the center. Charlemagne seated on a dais at the middle back with flowing white hair and a long white beard, wearing a crimson cloak, an ermine cape, and a gold crown. At his feet sit the two pages in white and green on either corner of the dais. His daughters, one on either side of their father, in pale pink and pale yellow, long veils bound with gold fillet. At the outer side of the table on the right are seated the knights in black and silver, at the left the governor in embroidered blue, the cardinal in scarlet, and the lords in white and silver.

Harmony and contrasts of color in costumes: Brown (servants) with white and green (pages); gray (Bertha) and black (Roland) with dull green, embroidered (Oliver); black and silver (knights) with dull blue, embroidered (governor); scarlet (cardinal) with white and silver (lords and dukes).

The Charlemagne group at center back, raised slightly above the others, bring the entire color scheme to a focus at the center of the stage. Crimson and white and gold (Charlemagne); tinted pink and yellow with gold (the daughters); white and green, just below (the pages).

It is difficult to convey an adequate impression of the beauty of this scene both in color and in the flash of movement, the intensity of action and the pathetic appeal of the Emperor's banished sister and her young son, Roland.

## VI. A PROJECT IN HISTORY AND LITERATURE.

## A HISTORICAL PAGEANT; THE MAY FESTIVAL.

A SCHOOL PROJECT UNDER THE PERSONAL DIRECTION OF PERCIVAL CHUBB.

(As reported by an eyewitness.)

"The day of our May Festival was warm and bright. Can you imagine a pageant of 600 children marching over the greensward of Central Park, bright in costumes of every land and every time? Quaint Colonial dames and squires, dainty Dresden shepherds and shepherdesses, clowns and mountebanks for the May-day sports? Athletes, with rods and dumb-bells, uniformed in suits of blue, crossbarred with white; Robin Hood and his foresters in woodland green with long-bow and arrows; groups of dancing, singing wood flowers—of tulips, snowdrops, and crocuses? The crowning of the Queen surrounded by her knights and ladies; the winding of the maypole by the Dresden dancers; the feats of skill in games and archery, with all the songs of May-time ever sung in any springtime; can you imagine anything so lovely as this in the month of May in the heart of our great metropolis?"

*How the festival was made ready.*—The costumes for this pageant were planned and made by the children during their sewing periods; the Maypole, the bows and arrows, the staves and swords were fashioned in the sloyd room; songs and games were taught by the supervisor of music, and feats of skill by the physical director. History and literature as central subjects; hearing language and reading as modes of attention; gesture, music, making, painting, drawing, speech, and writing as modes of expression, with concentration and coordination throughout its plan and purpose, here was a project worthy the mind of a great master.

## PROGRAM.

## Processional.

A tucket will announce the starting of the players from the school.

Song of greeting: "Now is the Month of Maying."

Pantomime prologue: The Death of Winter and the Birth of Spring.

## Spring's Awakening.

The sleep of the Flowers. Spring summons the powers of the earth and sky to wake the sleeping Flowers. Rains and Winds and the conquering Sun do her bidding, and the Spring Flowers come forth.

Robin song: "Wake! Wake! Children, Wake!"

## The Dawn of May Day.

Song: "Wake! Wake! for the Morn of May."

The lads and lasses gather, frolic together, and choose partners to go a-Maying:

"First of May, the Flora Day,  
Can you dance the Flora?"

They go forth to the woods and fields to gather garlands.

**Song: "Ye Lads and Lasses."**

They return with garlands to the village and perform the rites of purification and invoke the Spirit of Fertility; beating the village bounds; scattering the spirit of prosperity through field and fold, orchard and pasture, streets and houses; decking doors and thresholds; blessing the wells and fountains; and then they unite in a garland dance.

**Song: "Arise, Ye Maids!"**

**The Pageant to the Queen.**

A tucket summons the villagers to the market place where they form in procession.

**Song: "Come, Ye Young men, Haste Along!"**

**Progress to the green: Sherwood foresters; the May Queen, her attendants and train; the maypole dancers and peasants; the villagers, swordsmen, and dancers.**

**Song: "Come, Lasses and Lads."**

**The Enthronement of the May Queen.**

The Lord of the May presents the Lady of the May with the insignia of office: Wreath, crown, and scepter.

**Song: "Give to Our Lady o' May."**

**Homage to the Queen by her followers, including: The Harbingers; the Sun and the Robin; the Garland of the Harvest May or Spirit of Plenty; Spring and the Flower Maids and Heralds; the Queen and the Bearers of her Insignia; Lords and Ladies.**

**Jack-in-the-Green and the Sweeps; Mother Goose, her faithful bird, and her brood—Boy Blue, Bo Peep, Mistress Mary, Miss Muffet, Simple Simon and the Pie-man, the Queen of Hearts, Jack and Jill, Mother Hubbard, Jack Sprat and his Wife, April Fool.**

**Dance of the Lords and Ladies.**

**Song: "Hail! Hail! Sweet May!"**

**Sports and Revels on the Green.**

### **1. Robin Hood and His Sherwood Foresters.**

**Robin Hood and his companions—Maid Marian, Little John, Fair Ellen, Allen-a-Dale, Will Scarlet, and Friar Tuck—greet the Queen. The Hobby-Horse causes trouble. Robin summons the men and maids of the merry greenwood, who march before the Queen.**

**Song: "Robin Hood and Little John."**

**They display their prowess with the bow in an archery exercise; then retire, dancing a woodland May dance.**

Song: "Bow and Arrow Bearing, lo! the Archer."

## II. Maypole Rites and Dances.

The peasant dancers bedeck and do honor to the maypole; then dance around it.

Song: "Come, Lassies and Lads."

## III. The Fencing Combat and the Tumbling.

Salutation of the Queen by the rival villagers.

Song: "Lavender's Blue, Dilly, Dilly."

The challenge (Orange). The acceptance (Lemon).

The Combat.

The rivals, in token of good-fellowship, give a display of their athletic agility before the Queen in pyramid formations and tumbling. They then greet the maids of the rival villages, who unite in friendly dances—the Morris Dance, the Faithful Shepherd, and the Trenchmore.

Reassembling of Players and Recessional.

Song: "Hall! Hall! Sweet May."

## VII. MAKING A GROCERY STORE.

### A THIRD-GRADE PROJECT IN SLOYD AND NUMBER.

This was a community project in which each child in the grade had some part. The class visited a grocery store frequently during the process of the work.

They used a dry goods box, 22 inches long, 16 inches wide, and 10 inches deep. It was lined with manila paper and stood upright on one of its longer sides. The shelves, of thin pieces of wood, were fitted to the back of the box in length and were each  $2\frac{1}{2}$  inches wide. The lower shelf was  $3\frac{1}{2}$  inches from the floor, and they were all  $1\frac{1}{2}$  inches apart.

The counter was made by nailing narrow pieces of wood like the shelves into a box measuring 1 foot long, 8 inches high, and 8 inches wide. It was sand-papered to make it smooth.

The showcase, made of small pieces of glass, was fastened together with passe partout paper and looked like a glass box when finished, measuring 3 by 3 by 2 inches.

The balances were made of wood. The upright was a square stick of wood one-half inch on each side and 4 inches high, with a standard nailed to the lower end and a notch out in the upper end. The standard was a square block of wood measuring 2 inches on each side. The beam was a small rod of wood measuring one-eighth inch in diameter. The measures were made of square pieces of manila paper tied at each corner with a string and the strings tied together and tacked onto each end of the beam.

The balances were painted black and were set on the counter. The outside of the box was painted white and the shelves white. Moldings were nailed on



the front edges of the box and these were painted red. A sign over the store was painted white with a red molding at the top. The grocer's name, Mr. Dooley, by unanimous choice, was painted on the sign in black letters.

*Paper cutting and pasting.*—Bushel baskets and pails were cut and pasted out of manila paper and drawing paper.

*Modeling and water-color painting.*—Fruit cans, candy boxes, breakfast-food boxes, candy, flour sacks, cheese, apples, and potatoes were modeled out of clay and painted with appropriate colors.

The cans and boxes were placed on the shelves, the candy in the show case, the cheese on the counter, and the bags of flour and baskets of apples and potatoes were around the counter on the floor. Mr. Dooley and a customer, Mrs. Jones, were modeled in clay and painted. Mr. Dooley stands behind the counter, and Mrs. Jones, with her basket on her arm, is buying her groceries.

*Language.*—Price lists and names of commodities were written after each visit to a grocery. Orders for groceries were written and delivered to Mr. Dooley, who was impersonated by one of the pupils. Bills were sent out and collected; paper money was made by the class and used in buying and selling.

*Reading lessons.*—Each step of the work was used as a basis for reading. These were development lessons written on the board by the teacher at the dictation of the class. They were read from the board and copied into their language books. Later they were typed and bound with a series of similar lessons into permanent form and used as a project reader.

## VIII. MAKING BREAD IN SCHOOL.

### A PROJECT IN COOKING.

There is no project in the elementary school that may be of greater value to the children than lessons in cooking plain, wholesome food. This project on bread making is given here because it has been worked out in primary rooms of first and second grade children many times and never fails to become a valuable lesson both to the pupil and to the family at home. The difficulty of baking bread in an ordinary schoolroom may be overcome if there are gas jets or electric fixtures in the room. Then a gas plate and oven or an electric grill and oven may be borrowed at home by some pupil and brought to school for this lesson. There is always an advantage in having children watch the process of baking which, of course, they miss if the bread is loaned out to bake. The simplest method possible is given in this lesson, in order to remove any difficulty which the teacher might fear in attempting this project.

The teacher gives two pupils 40 cents and sends them to the grocery store to buy flour, milk, and yeast. She asks them to bring back the change and requests the class to figure out how much money will be left when the materials are bought. Have them make out a bill in correct form and compare it with the grocer's bill when the children return from their errand.

To groceries for bread:

4 pounds flour @ \$0.06.....	\$0.24
1 cake yeast @ .05.....	.05
1 pint of milk @ .08.....	.08
	<hr/>
	.37
By cash .....	.40
	<hr/>
Credit .....	.08

The teacher can borrow a pan from some one who lives near the schoolhouse, and set the bread overnight. Let the children stir the milk, diluted one-half with water, into the flour, and also add the yeast, dissolved in half a glass of water. A spoonful of salt and a tablespoonful of sugar should be mixed with the flour before the wetting is added. These the children can bring from home.

In the morning the sponge will be ready to knead. Have the children wash their hands carefully, and then give each one a handful of dough, which has been stirred in the pan to a stiff sponge. If possible, have the children stir the dough. The dough can be laid on each desk on a large sheet of drawing paper or some of the children can work around a table if a large one is in the room. (See picture.) If a little flour is first sprinkled on the paper the children will have no difficulty in kneading the bread.

Have the children write their names on long, narrow strips of paper before they begin to knead the bread. When the little loaves are ready for the pan let each child place the strip of paper containing his name under the loaf which he has prepared. The name, written on the upper end of the strip, should be in plain view.

Have ready some biscuit tins, also borrowed, well greased with lard or butter, and have the children lay their loaves of dough in the pans side by side, with the name of each pupil by his loaf. These loaves will be about the size of the rolls which we buy at the bakery.

When the loaves are nearly light and ready for baking send them to some house near the school where you have already made arrangements to have them baked. Any mother of one of the pupils will be glad to add the little tins of school bread to her baking if you arrange to send them over on her baking day.

When the bread is baked and is returned to the school wrap each little loaf in a white paper napkin and send it home by the pupil who made it.





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# MALNUTRITION AND SCHOOL FEEDING

By

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# MALNUTRITION AND SCHOOL FEEDING.

## INTRODUCTION.

One of the most conspicuous by-products of the public-school system is a quickened interest in the physical welfare of the school child. Practically the entire population of the Nation between the ages of 5 and 15 is gathered together for from 6 to 10 months of the year into a great community to receive public instruction. This segregation of the youth of the Nation is beset, from the point of view of public health, with advantages and disadvantages. The chief disadvantages are that the close personal contact of so many individuals facilitates the spread of contagious disease and that the educational process itself places a severe physical strain on growing children. The chief advantages are that it facilitates the regulation of health conditions and that it brings to the attention of the proper authorities physically subnormal children who would otherwise remain undiscovered.

Malnutrition is a term used to indicate a general condition of less than normal physical and mental vigor (25q.) While the causes of malnutrition are many, incorrect or inadequate diet appears all too often as one of the causes; hence school feeding, which affords not only an opportunity to supplement the home food supply but also to teach correct food habits, becomes a most valuable agency in combating the evil.

This monograph is presented with a desire to aid communities in making school feeding a really effective social agency. In order to determine the true relation between malnutrition and school feeding, we shall first consider briefly the problem of malnutrition and, second, the development and present status of school feeding both in New York City and other communities in relation to this defect.

## MALNUTRITION.

Malnutrition has received most careful study in Great Britain; and it is to Great Britain, therefore, that we must turn for the most authoritative and convincing statements on the subject. Nowhere have the difficulties inherent in the problem been more clearly stated than in the report of Sir George Newman, chief medical officer of the board of education of England (23):

Sound nutrition is a general physiological condition which connotes a healthy body in all respects and the good tone and health of its various constituent parts, its brain and nervous system, its muscular, digestive, circulatory, and lymphatic systems. All this means that we must take a wide and comprehensive view of nutrition, which is a state revealing itself in a variety of signs and symptoms. Thus, in endeavoring to estimate a child's nutrition or its opposite (*viz.* malnutrition), we must think not only of bulk and weight of body, but of ratio of stature to weight; of the general balance and "substance" of the body and of its carriage and bearing; of the firmness of the tissues; of the presence of subcutaneous fat; of the condition and process of the develop-

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<sup>1</sup> Reference is made by number (*italic*) to "Bibliography," p. 38.



ment of the muscular system; of the condition of the skin and the redness of the mucous membranes; of the nervous and muscular system as expressed in listlessness or alertness, in apathy or keenness; of the condition of the various systems of the body, and, speaking generally, of the relative balance and coordination of the functions of digestion, absorption, and assimilation of food as well as of the excretion of waste products. It is obvious that these are data which are likely to lead to a much more reliable opinion than the consideration of any one factor or ratio, however expeditiously obtained or convenient in form or practice, and these data will demand a wider as well as a more careful and accurate observation of the whole physique of the child. Nor can an ultimate opinion always be formed at one inspection at any given moment. For nutrition, like its reverse, malnutrition, is a process and not an event. In regard to diagnosis, therefore, the school medical officer has as yet neither an absolute standard of nutrition nor a single criterion to guide him. He must form a considered and careful opinion on all the facts before him.

#### ANTHROPOMETRIC METHOD OF DIAGNOSIS.

The anthropometric method of determining malnutrition is the one most widely used, and in many cases it is used exclusively. Since malnutrition almost invariably manifests itself in retarded growth, and since the child's height and weight may readily be determined with respect to the normal measurements for his years, this method makes a strong appeal to school medical inspectors who have not the necessary time to make thorough examinations, and may even be resorted to by those without medical training. It appears that the child's height is less affected by his nutrition than his weight, and there is, therefore, a strong preference for comparing the child's weight with the normal weight for a child of his height, rather than with the normal weight for his age. Height is to some extent influenced by nutrition, hence children who are much under height for their age ought to be regarded as suspected cases of malnutrition unless there is a known inheritance of small stature.

But deviation from the normal or average rate of growth is not in itself an infallible index of the child's nutrition. Height and weight are determined by heredity factors as well as those of nutrition. The method has value only as a rough sorting out of children apparently in need of nutritional care and is in no sense a substitution for a thorough medical examination where this is possible.

#### THE GRADING OF NUTRITIONAL DEFECTS.

The defect is relative. Children can not be divided into two mutually exclusive classes, the well nourished and the poorly nourished, for the attempt to do so results in an arbitrary division of border-line cases. Dr. Alister MacKenzie, of Dunfermline, Scotland, has worked out a practical method of classification, known as the "Dunfermline scale." (18) According to this scale all children are divided, with respect to their nutrition, into four groups, as follows:

(1) "Excellent" means the nutrition of a healthy child of good social standing.

(2) Children whose nutrition just falls short of this standard are "good."

(3) Children "requiring supervision" are on the border line of serious impairment.

(4) Children "requiring medical treatment" are those whose nutrition is seriously impaired.

## THE EXTENT OF MALNUTRITION.

## CONFLICTING DATA.

Since there is in operation no uniform method of diagnosis of the defect of malnutrition, it is not surprising to find a great disparity in the statistics regarding it. Indeed, the estimates of the prevalence of the defect run from 1 per cent to 50 per cent of the school population in communities which are similar in most other respects. One must look with suspicion, therefore, on all estimates or statistics until one has ascertained something of the method of diagnosis and classification. Observers who are relatively inexperienced in dealing with the defect are likely to recognize only the most marked cases; i. e., cases of virtual starvation. The number reported by such observers is, therefore, comparatively small. Under careful and accurate methods of diagnosis, however, which recognize degrees of the defect, a large number is usually called to attention. This is clearly illustrated in the case of New York City. In that city, before the adoption of the Dunfermline scale, the average annual percentage of school children reported by the department of health as undernourished was 4 per cent, while in 1916, the year of the adoption of the Dunfermline method, 15 per cent was reported. As it is unbelievable that malnutrition has actually increased to that extent, we must assume that the apparent increase was due to better methods of diagnosis and classification. It is likely, however, that the proportion of malnutrition found in New York City is fairly indicative of that present in most cities with a large industrial population.

## DATA OF CAREFUL OBSERVERS.

At the present stage a rough estimate of the extent of malnutrition based on the reports of those authorities who have been most thorough and careful in their methods and in their grasp of the problem is much more satisfactory than conflicting reports from various localities. In Great Britain, where the grading system is universally in vogue, the percentage of school children who are reported as undernourished runs from 10 to 30 per cent. In 1912 London reported 9.8 per cent of its children as undernourished, while in 1918 from 4.4 to 7.2 per cent, according to age grouping, were placed in that class. Bradford reported 16.2 per cent of the children attending its schools in 1914 as below normal and of bad nutrition. Dr. Alister MacKenzie reported 38½ per cent for Edinburgh. Dr. S. Josephine Baker, director of the bureau of child hygiene of the New York health department, reported 20 per cent as the proportion of malnutrition among New York City children for the year 1917-18.

Studies of small groups, when conducted with greater care than is usually possible with larger ones, are of great value as an index to the situation in the entire community. Such a study was recently made by the bureau of child hygiene of the department of health of New York City and the New York Association for Improving the Condition of the Poor. It was found that among the 2,585 children examined one-third (33.8 per cent) were undernourished.

## ESTIMATES IN THE UNITED STATES.

On the meager data at our disposal it would be hazardous to attempt to estimate the number of children of school age in the entire country who are suffering from malnutrition. In 1904 Robert Hunter, in his book, "Poverty," estimates that there were 3,800,000 undernourished school children in the

United States. About the same time other estimates appeared which were a little more conservative. Spargo estimated that there were 2,000,000 undernourished children, while Dr. Sill placed the figure at 1,472,896. As we have seen, conservative estimates of the extent of malnutrition of various communities of the country run from 5 to 20 per cent. If this proportion holds true for the entire country, it would mean that from 1,000,000 to 4,000,000 children in our public schools are suffering from defective nutrition.

#### CAUSES OF DEFECTIVE NUTRITION.

The chief causes of malnutrition are poverty, ignorance, and disease. A great deal of confusion has arisen in the attempt to assign a definite value to each factor. The three factors are usually interwoven and the fact that ignorance and disease are more prevalent among the poor than among the well-to-do has led many to conclude that poverty is the chief or sole cause of defective nutrition. The mistake has been to use the term poverty in the widest sense to include all the usual concomitants of poverty—overworking, low standards of hygiene, as well as the mere lack of food (11).

It is, of course, difficult to determine exactly to what extent the inadequate supply of food even among poor families is due to insufficient income. Chapin's "Standard of Living of Workingmen's Families" throws considerable light on this phase of the subject. The weekly purchases of food of 391 families were submitted to food experts who determined whether or not they were adequate. The "underfed" families were then compared on the basis of yearly income with the following results:

#### *Relation between income and underfeeding in American workingmen's families.*

Annual income.	Total number of families.	Underfed families.	
		Number.	Per cent.
\$400 to \$500.....	26	19	76
\$500 to \$750.....	151	48	32
\$750 to \$1,000.....	78	16	22
\$1,000 to \$1,500.....	94	8	9
\$1,500 and over.....	48	0	0
Total.....	391	91	23.2

The table clearly indicates a remarkably higher rate of underfeeding among the lower income groups. Miss Gillett's studies in the same field have substantiated the conclusions of Dr. Chapin (26). She discovered, further, that important foods, such as milk, eggs, and fresh vegetables, are more likely to be lacking among the poorer groups because they are regarded as too expensive. This tendency, however, is due as much to ignorance as to inadequate income.

Ignorance of food values and the rudiments of hygiene tend to fix family habits which are bound to retard the physical development of the child. The tea and coffee habit, lack of proper sleep, fresh air, and exercise, and the use of sweet and starchy food to the exclusion of protein foods and those containing mineral salts and vitamins, often have their origin in ignorance. With the immigrant population the situation is aggravated by faulty adjustment to the American food supply. Such families find that the food they have been accustomed to in the old country is either not available at all or prohibitive in cost, while American foods, which are cheaper and quite as nutritious, do not appeal to them. The adjustment is a sort of compromise which is far from satisfactory from the point of view of nutrition.

It is definitely known that certain diseases and physical defects adversely affect the child's nutrition. Serious illness in early childhood, intestinal parasites, toxic poisoning from defective teeth, tonsils, and adenoids, tuberculosis, and venereal diseases all tend to interfere with the processes of digestion and assimilation.

#### THE EFFECTS OF MALNUTRITION.

The most immediate effects of malnutrition are a stunted physique and a lowered resistance to disease. Dr. Holt says, "The undernourished child takes everything." Measles, scarlet fever, and tuberculosis make their most deadly inroads among children whose vitality is below normal. Malnutrition, except, of course, in its extreme form of actual starvation, seldom directly results in death. This fact may explain to some extent why the defect has only so lately aroused the serious concern of public-health authorities. But, as a prelude to diseases which often are fatal in character, its deadly effect is none the less real.

Malnutrition is often a cause of poor teeth and defective vision, just as poor teeth and defective vision may react upon the general health of the child. The inadequate supply of improper assimilation of mineral substances deprives the bones and the teeth of their proper strength. Bad teeth result in the secretion of certain poisons and in poor digestion, which are themselves prolific causes of malnutrition.

Malnutrition is of the deepest concern to educators because of the effect it has in retarding the child's progress in school. This takes place chiefly in two ways: First, in absences from school because of physical defects; and, second, in the failure of the child to react properly to the stimuli of the classroom even when he is present. A study recently made of undernourished children in the schools of New York City indicated that there was an advantage of between 3 and 4 per cent in grade progress of the children of better nutrition as against those of poor nutrition.

The defect has a serious economic aspect also. A child with a poor physique and an inadequate mental equipment is poorly fitted for the economic struggle. Malnutrition, therefore, frequently results in poverty, while, as we have seen, poverty is a cause of malnutrition. A vicious circle is established, leading from poverty to malnutrition and from malnutrition back to poverty.

#### A BRIEF HISTORY OF SCHOOL FEEDING.

Interest in this subject has generally taken three forms: An emotional, an educational, and a public-health interest. The emotional interest has usually appeared first and has been the least productive of results. The educational and public-health interests have appeared later and practically simultaneously.

School feeding has often started as a sympathetic response on the part of the community to the spectacle of thousands of ill-nourished children in the public schools. The natural impulse has been to feed these children with little thought of the final results of such a procedure.

Interest in the subject developed among educators because they have realized that to attempt to educate children whose minds and bodies were stunted for lack of proper food was a heavy drain on the entire educational system. While they realized that school feeding could not be expected to restore all children to a condition of sound health, it offered one approach to the solution of the problem of malnutrition.

Broad-minded educators have also seen another possibility in school feeding which might be called its educational aspect. They saw a possibility in

the serving of school meals under proper conditions of educating the children, and through them the family, in food economy and personal hygiene, as well as imparting some of the common amenities of life to those who would otherwise not receive them. The school they regarded as the logical place for carrying on such work.

The public-health interest has developed almost simultaneously with the educational interest. The two points of view have much in common. As investigations show malnutrition to be an important factor in racial degeneration, any proposal which promises to aid in any way in the control of this menace makes a strong appeal to those groups who are chiefly interested in the conservation of human life.

#### THE ENGLISH MOVEMENT.

Nowhere has school feeding been done on such an extensive scale and nowhere has it been accorded such strong popular approval as in England (4). Since the public elementary schools of England have heretofore been the schools of those too poor to send their children elsewhere, it is not surprising that the malnutrition existing among these children should be closely associated with the poverty of their parents.

School feeding began in England as an emotional response on the part of groups of sympathetic and charitable persons to real suffering among school children. The education act of 1870, which enforced school attendance, was largely responsible for the initiation of the movement. The gathering together of the poor children of the nation in the public schools brought to notice thousands of sickly and emaciated children who would otherwise have remained hidden in the slums of great cities. It was also soon discovered that the strain of school life was more than many of their feeble bodies could bear. A large number of volunteer feeding societies sprang into existence to meet this need. It has been stated on good authority that in 1905 there were 355 separate organizations for school feeding in 146 towns and cities in England.

The work, however, was far from satisfactory. No uniform policy or practice with respect to the character of the meal provided, the charge made to the children, or the method by which certain children were selected for free feeding was followed.

There was, however, almost universal testimony that the effect of such meals, unsatisfactory as they were in many respects, was most marked both in improving the physique of the children and in their school work. At least, a beginning had been made which proved invaluable later when the public demanded a carefully thought out and well-administered system of school feeding. This came early in the present century.

The Boer War did much to bring the issue of malnutrition and school feeding to the forefront. The military authorities found that three out of five who sought to enlist in the army were rejected because of physical disability. This startling fact led to two public inquiries; that of the Royal Commission on Physical Training in Scotland and of the Interdepartmental Committee on Physical Deterioration. Both of these commissions concluded that the apparent deterioration of the race was largely due to malnutrition in childhood. They took the general view that if the nation compels children to attend school, it must also see that they are physically fit to profit by the instruction which is offered them.

The presentation of the reports of these commissions was followed by a series of debates in Parliament as to whether school feeding should be admin-

istered by the education authorities or by the poor-law authorities, there being apparently no disagreement as to the need of the service or the utter inability of private societies to perform it. The view that school feeding was essentially an educational matter and not one primarily of relief prevailed. In December, 1906, the education (provision of meals) act was passed by Parliament. Scotland was excluded from the provision of the first act but was taken in two years later. The act was predicated on the theory that no child should be deprived of the full value of his education because of lack of food. All undernourished children were to be provided with a school meal, sold at cost to those who could afford it and given free to those who could not.

#### FRANCE.

School feeding in France antedates that of England. The origin and genius of the movement in France, however, differs materially from that of England. School feeding in France has been more democratic in spirit and empirical in method than in England.

The work in France, as elsewhere, originated in volunteer effort. Early in the history of the public-school system, school funds, *caisses des écoles*, were formed by the residents of various districts to enable needy children to attend school. These *caisses des écoles* were first supported entirely by voluntary contributions, but later subsidies were made to them from the public treasury. Out of these funds, clothing, food, books, and other necessities were provided for indigent school children. By 1880 the *caisses des écoles* had attained such importance that their establishment was made obligatory in all districts.

Naturally an important function of the *caisses* was the provision of food. When the demand warranted it a school lunch or *cantine scolaire* was established by means of these funds. Gradually *cantines* appeared in various districts in Paris and other towns, until, according to the latest reports, they were in operation in 1,400 communes in France and were providing food for 187,000 children.

As the system developed, a larger proportion of meals was served free. In 1882 only 33 per cent of the meals were served free, but in 1898 the proportion of free meals had increased to 63 per cent. In the latter year the municipal subsidy amounted to 1,017,000 francs. For fear that the expenditures would constantly increase, the council restricted the allowance in the following year to 1,000,000 francs.

#### OTHER EUROPEAN COUNTRIES.

School feeding as performed in England and France is fairly typical of what is found in Europe. A complete narrative of the history of the work in each particular country would, therefore, be simply redundant. Suffice it to say that in Germany, Austria, Holland, Belgium, Switzerland, Italy, Norway, Sweden, and Denmark school feeding has been performed for a generation either by voluntary societies or by municipalities, while Spain and Russia had before the war made beginnings in the movement.

#### UNITED STATES.

The first penny lunch was started in Philadelphia in 1896 (3). It took 10 years, however, for the idea to take hold of the minds of public-health authorities and educators. In 1904 and 1905 Hunter and Spargo called attention to

the vast amount of underfeeding among school children and pointed to the imperative need of school feeding to cope with the evil. Dr. William H. Maxwell, for many years superintendent of schools in New York City, was an early advocate of the work and repeatedly urged its adoption upon the board of education. His entreaties, however, were not heeded until 1908, when a school lunch was established in two New York schools by the New York school lunch committee.

Opinion in America has from the beginning been adverse to free meals on the ground that such activity tends to pauperize school children and is entirely devoid of any real educational value, but it has rather favored a self-supporting or partially self-supporting lunch for school children. "Penny lunches," as they were called in the early days, were simply intended to make it possible for children to purchase soup, cocoa, and other nourishing foods with the money that they were already spending for trash.

### THE PRACTICE OF SCHOOL FEEDING.

#### EXPERIENCE OF GREAT BRITAIN (4).<sup>1</sup>

The provision of meals act went into effect on December 21, 1906, and was followed by an immediate and remarkable increase in the number of meals served. In 1907-8 there were but 2,751,326 meals provided, while in 1914-15 the number reached 29,580,316. During the war the number of meals served fell off until in 1917-18 only 6,508,140 were served.

The average cost per meal was 2.47d. per meal in 1914, but increased to 5.33d. in 1917, owing to the increase in cost of food and labor. The number of children receiving school meals dropped in 1917 to one-seventh the number fed in 1914. In the latter year the number was unusually large owing to the extended strikes among coal miners and a resultant poverty in the miners' homes.

*Where meals are served.*—The meal has been served in one of four places: (1) In the school itself; (2) in outside restaurants or eating houses; (3) in centers outside of the school building; and (4) in the homes of the children.

The first place, i. e., the school building, has been least often used except in special schools for defective children or in open-air schools. The conditions existing in the British schools made it difficult to secure satisfactory places within the buildings for the meal service.

In practice the second method, i. e., permitting local restaurants to contract to feed the children, has proved most objectionable of all because the places themselves are frequently insanitary and there is always a tendency for the restaurant keeper to profiteer at the expense of the children.

The most popular places for serving meals have been "centers" or canteens located near the schools. These canteens are under the direct control of the authorities, though this has not always assured satisfactory food or conditions.

In one place, the Borough of Leicester, bread and milk are sent to the homes of necessitous children.

*Preparation of food.*—The food is prepared either by commercial caterers or directly by the canteen committee through its executive staff. The disadvantages of contracting for this service is that the canteen committee has not adequate control of the conditions under which the food is prepared or the dietary standards of the meals. The contract system is used to a large extent in London, and the Alexander Trust, which prepares most of the food served in the London schools, appears to be rendering excellent service. In Bradford all of the food is prepared by the canteen committees for 10,000 children who are served there daily. Not only is the service prompt and efficient, but the quality of the food is excellent.

<sup>1</sup> Refers to item No. 4 of Bibliography.

In large towns most of the food is prepared in central kitchens, packed in heat-retaining vessels, and carted to the feeding centers in wagons and motor trucks. Only in the small towns or in large towns where the feeding centers are widely scattered is the individual kitchen plan used. The adoption of the central kitchen plan is urged by the authorities wherever practicable because it makes possible not only the centralized supervision of the cookery and the quality of the food, but also results in considerable economy in labor and overhead expenses.

*Time of the meal.*—Both theory and practice vary as to the time at which the meal is served. Breakfast, dinner, and supper are each regarded by different authorities as the most satisfactory meal, while some, notably London, provide all three. Of course, the noon dinner is the most popular meal and practically all authorities now provide it. Until 1912 Birmingham, however, served breakfast exclusively. In that year, while it served 370,944 breakfasts, it provided 2,739 dinners as an experiment. By 1916-17 the advantages of the noon meal were so clearly demonstrated that the order was reversed, with 31,153 dinners and 13,273 breakfasts. The usual practice now is to regard breakfast as a supplementary meal to be given only to exceedingly necessitous children in addition to the noon meal.

*Vacation.*—The custom of providing school meals during vacations soon arose and spread rapidly. The Bradford feeding experiment clearly demonstrated that with the discontinuance of the meals during the vacation the children lost the gains they had made during the feeding period. The experience of other committees corroborated this evidence, with the result that many authorities took the liberty of continuing the service through the vacation season. The practice was finally declared illegal, but this impediment was removed by amending the act in 1914. In 1914-15, the first year after the passage of the amendment, of the 183 authorities providing meals, 108, or 59 per cent, provided vacation meals. In 1916-17, however, when suffering was less acute, only 72 per cent of the authorities provided vacation meals.

*The dietary aspects of the meal.*—Naturally an important phase of school feeding is the planning of the dietaries so as to provide in the school meal for the deficiency in the child's diet at home. This has both a quantitative and a qualitative aspect. Not only must the child be given a sufficient number of grams of food, producing so many calories, but provision must also be made for balancing the diet so as to compensate for the elements usually lacking in the home diet of the underfed child. English authorities are pretty well agreed that the diet of necessitous children is particularly deficient in proteins and fats. Children of poor or ignorant parents are usually amply provided with starchy foods, such as bread and potatoes, and with sugars, usually in the form of treacle.

The school breakfast there usually consists of oatmeal, treacle, bread, milk, and margarine. The articles are provided in sufficient amount to yield 19.0 grams of protein, 20 of fat, and 600 calories in energy value. There is practically no variety in the breakfast menu either in Bradford or other towns, but there is, of course, considerable variation in the dinner menus. About two-thirds of the dinners have meat for the main course, while a third are "vegetable" dinners. A typical dinner consists of cottage pie, green peas, gravy, and stewed fruit. A dinner of this sort yields 33 grams of protein, 21 grams of fat, and 849 calories.

If supper or "tea" is served, it is usually very simple and consists of bread and margarine and tea with milk. Even this scanty meal provides 19 grams of protein, 18 grams of fat, and 433 calories.



Where the school feeding work is carefully coordinated with the school medical service, the menus are usually submitted to the medical officer for approval as to their food value. In London the school medical service recently established a standard dinner which it regarded as essential. This standard called for 25 grams of protein and a total caloric value of 750 units for each child. Everywhere the authorities assume that if the meal furnishes the required number of calories and the proper amount of protein, the other elements, carbohydrates, fats, and mineral salts, are present in sufficient quantities.

*The selection of the children.*—In the selection of children to be fed, two tests are supplied—the physical and the poverty test. According to the physical test a child is selected for the meals if, in the judgment of the school doctor or nurse, he is undernourished, regardless of the economic condition of his parents. According to the poverty test a child is selected for the meals if the investigation of the home reveals the fact that there is insufficient income in the home to provide adequate nutrition for him. Usually the two tests are combined, but there is a great difference in the emphasis which is placed on one or the other test. The chief medical officer, however, is constantly urging the canteen committees to apply both tests, pointing out that the provision of meals is not meant to be merely a form of relief, but to deal with all cases of malnutrition whatever they may be. If the physical test is not applied, many children whose malnutrition is due to the ignorance or apathy of their parents will not be provided with the proper nutrition. Usually in the smaller towns the physical test is applied more rigorously. In Brighton, Hester, and other small towns approximately 50 per cent of the children fed are selected because of poverty, and 50 per cent are selected because of malnutrition alone.

There is still little provision for insuring the attendance on the meals of those children whose malnutrition is not due to poverty. Some authorities, notably Miss M. E. Bulkeley (4) and the chief medical officer, think that the only way out of this dilemma is to provide free meals for all undernourished children regardless of their economic status. They believe that in this way not only will the meals be a more effective means of dealing with *all* cases of malnutrition, but that invidious and unpleasant distinctions will be avoided and the service put on a wholesale democratic basis.

*The educational aspect.*—It is generally recognized in Great Britain that the meals should offer a definite contribution to the child's education. This contribution is to be made not only in providing the child with adequate nutrition to keep him in a physical condition fit to respond to the instruction offered him, but also in imparting to the child the knowledge of the value of wholesome food and of instilling decent habits of eating. In communities where this phase of the work is receiving the most careful attention special teachers and monitors are provided for serving the meal and for keeping order. The tables are spotlessly clean and are frequently provided with tablecloths, flowers, and other amenities. The work is gradually being coordinated with the teaching of domestic science. In some of the smaller schools girls of the cooking classes prepare the lunch for the entire school. The work is carried still further into the homes by inviting the mothers to attend the luncheon with their children, in the hope that proper standards will gradually become a part of the living standards of the family affected by the meals.

#### EXPERIENCE OF FRANCE IN SCHOOL FEEDING.

*Organization.*—The administration of school feeding in France is effected through the local school-fund committees (caisses des écoles). In Paris, for example, there is a school-fund committee for each of the 20 arrondissements. The school-fund committee appoints a canteen committee to supervise the school

canteens in its district. Beside the members selected from the larger committee, the canteen committee is made up of from 20 to 25 delegates elected by the voluntary subscribers to the school fund from their own ranks. The canteen committee appoints the manager for each canteen, who is held responsible for the purchase and preparation of the food.

While this decentralized plan results in a certain lack of uniformity in standards and methods, the complete autonomy given to the local committees, on the other hand, stimulates a keen interest in the school meals, which is largely responsible for their success. Committee members visit the various feeding centers regularly to inspect the food and service and to see that proper standards are maintained. In this way the canteens in Paris are prevented from becoming merely perfunctory and official.

*Character of the meals.*—The meal usually takes the form of a noon dinner (18), although in a few instances hot soup is provided at the opening of school for needy children. The school medical inspector is frequently charged with the responsibility of supervising the menus to insure the maintenance of proper food standards. Meat is furnished every day for the older children and twice a week for the younger ones. The quantity of meat given to each child varies, according to age, from 40 to 60 grams. The menu usually provides soup, a meat dish, and a vegetable. Desserts are seldom provided and no drink except water.

*Service of the meals.*—It is in the matter of service that school feeding in France particularly excels that of all other countries. The meals are conducted in a most dignified and attractive manner. An ample service staff is provided to wait on the children, and teachers are placed in charge to preserve order. Most of the teachers take their meals with their children, and their presence has a wholesome effect on the manners of the children. The children are provided with napkins, knives, forks, and spoons, and the tables are kept scrupulously clean. The educational effect, therefore, in raising the general standard of living is significant.

*Pay and free meals.*—About two-thirds of the children receive this service free. The remaining third pay for the cost of the food, but not for the service or equipment. Despite the fact that so large a proportion of the meals are served free, the "charity" atmosphere so prevalent in the English schools is entirely lacking. This is avoided by an ingenious system of tickets. On entering the room each child passes through a booth where he secures a ticket. Those who can pay; those who can not are admitted free, but receive a ticket the same as those who pay. The home conditions of the indigent child are then investigated, and if it is found that the parents really can not afford to pay, he is given a ticket each day without further comment. In this way the children are kept in ignorance of those who pay and those who do not.

*Financial aspect.*—Theoretically the school funds are supported both by private contributions and public subsidy, but as a matter of fact the amount secured by voluntary contribution is almost negligible, less than 2 per cent in most cases. The luncheon sales produce only a slight revenue, since only a third of the children pay for their meals, and since the prices charged simply cover the cost of the food. The city of Paris, before the war, provided annually over \$200,000 for the support of school meals. Thus, more than two-thirds of the funds for school meals in Paris are raised through taxation. There is a growing feeling that the collection of the other third through lunch sales and voluntary contributions ought to be entirely abandoned. Many feel that an injustice is wrought in making the one-third pay twice, not only for the food they themselves consume, but for the meals of the others through taxation. It seems probable, therefore, that eventually the whole system of school feeding in France will be free in keeping with the general tendency to socialize all public activities which are concerned with the education of the child.

## AMERICA.

No adequate census has ever been taken of the extent of school feeding in America, but a recent survey of the Bureau of Municipal Research (New York) gives a fair idea of the growth of the movement. In February, 1918, the bureau sent a questionnaire, covering the essential points of school feeding practice, to 131 cities of 50,000 population or over; replies were received from 86 of them. The growth of the work in various cities during the past four or five years is clearly shown in the following table:

*Growth of school-lunch service in certain cities with 500,000 population and over.*

[Prepared by the Bureau of Municipal Research.]

City.	Period.	Growth.
New York City (Manhattan).....	1911-1915	Elementary—9 to 49 schools.
New York City (Brooklyn).....	1912-1915	Elementary—4 to 16 schools.
Chicago.....	1912-1916	Elementary—10 to 23 schools.
		Intermediate.
		High—0 to 31 schools.
Philadelphia.....	1913-1917	Elementary—0 to 16 schools.
St. Louis.....	1913-1916	Elementary—1 to 5 schools.
Boston.....	1911-1917	High—18 to 18 schools.
Pittsburgh.....	1914-1917	High—3 to 7 schools.
		Elementary—7 to 10 schools.
Los Angeles.....	1914-1917	Intermediate.
		High—13 to 16 schools.
San Francisco.....	1912-1916	High—1 to 3 schools.
New Orleans.....	1911-1916	Elementary—2 to 10 schools.
		High—3 to 3 schools.
Minneapolis.....	1911-1916	Elementary—2 to 6 schools.
		High—5 to 6 schools.

Obviously the high-school pupils fare better in the provision of the school lunch than those of the elementary schools, since 66 of the cities, or 76 per cent of those reporting, provided a lunch for high-school pupils, while only 22 cities, or 25 per cent, provided an elementary-school lunch. The reason for this is not far to seek. The lengthening of the daily high-school session and the shortness of the lunch hour, together with the great distance which most of the children are obliged to travel, make some provision for a substantial luncheon in most cities imperative. On the other hand, the children attending the elementary schools usually live within a few blocks of the school and the full hour allowed for luncheon seems sufficient time to permit them to return to their homes for the noon meal. But from the social point of view there is a greater need for lunches for elementary school children. It is during this period of the child's life that inadequate feeding does most harm and it is then that food habits are formed which cling throughout the life of the individual and impair both his physical and mental efficiency.

Moreover, the fact that the high schools have so far received most attention throws light on the attitude of the American public toward school feeding. Most cities regard school lunches merely as a convenient accessory to the school system and not as a means of putting the child in the proper physical condition to profit by the education which is afforded him or of raising the general standard of living. Indeed, of the 72 cities reporting school lunches, only 5 indicated in their reports that the lunch had been established definitely for the purpose of combating malnutrition.

## NEW YORK CITY.

Until January, 1920, lunches in the elementary schools of New York City have been provided entirely by the voluntary societies, the New York and

Brooklyn school lunch committees. With the opening of the school year, 1919-20, the board of education assumed full responsibility for school lunches in Manhattan and the Bronx, and during the subsequent school year assumed responsibility for the work in all boroughs.

While the board of education has furnished the necessary space for kitchens and lunch rooms and usually equipped them, it assumed no further responsibility for the conduct or success of the service.

A detailed description of school feeding in every community where it is practiced would lead to unnecessary repetition. We shall, therefore, describe in detail the work in only the most representative community, with particular emphasis on the points on which they differ in practice.

The experience of New York City in school feeding covers a dozen years. The work has been developed under the auspices of two private organizations, the New York and Brooklyn school-lunch committees. In January, 1920, the board of education assumed full responsibility for the work in Manhattan and the Bronx, and in September, 1920, took over the work in Brooklyn as well. It has been the function of the private organizations to demonstrate that school lunches can contribute to the physical and social well-being of the child and to develop methods which could be used by the educational authorities when they were ready to assume what is really their own responsibility.

In private hands, the school-feeding work in New York City grew until in 1917-18 lunches were provided in 58 public schools. In the following year it seemed likely that the city would undertake responsibility for the work, and this consideration, together with the fact that the cost of the service was constantly rising, led the New York school-lunch committee to contract its service to those schools in which the need for the service was most imperative. During that year (1918-19) only 44 schools were served. In September, 1919, the New York school-lunch committee withdrew entirely from the field to facilitate the transfer of the work to the department of education. The inadequacy of the city's appropriation made it possible for the city to serve only 14 schools. The following table indicates the number of schools served with a school lunch in New York City since the beginning of the work:

*Manhattan and Bronx.*

School year.	Number of schools.	Lunches served.
1912-13 -----	17	222, 235
1913-14 -----	17	431, 375
1914-15 -----	19	467, 983
1915-16 -----	49	800, 000
1916-17 -----	34	825, 000
1917-18 -----	35	800, 000
1918-19 -----	26	595, 000
1919-20 -----	14	300, 000

*Brooklyn and Queens.*

School year.	Number of schools.
1912-13 -----	2
1913-14 -----	8
1914-15 -----	13
1915-16 -----	20
1916-17 -----	22
1917-18 -----	18
1918-19 -----	18
1919-20 -----	16

*The service.*—In Manhattan and the Bronx the meals are usually served in the indoor playyard. This is admittedly a makeshift. Folding tables and benches are set up by monitors about 10 minutes before the lunch hour. On entering, the children form a line and pass a certain point where they are given trays and spoons by one of the pupil assistants. They then pass the tables where the food is served, select what they want, and pay the required pennies to the cashier, who stands at the end of the line. After the child has made his selection he takes his place at one of the tables, where he eats his luncheon.

*Dietary aspects of the meal.*—Inasmuch as attendance at the school lunch is voluntary, a prescribed well-balanced meal for each child, however ideal from the point of view of scientific nutrition, is difficult to enforce. Although the children are permitted to select the different portions of food, every effort is made to encourage them to make wise choices. A trained dietitian plans the menus with a view to providing in each portion the highest food value at the lowest possible cost. Racial and religious tastes and prejudices must also be carefully considered in determining the menus offered. The New York committee provided entirely different menus for schools which were predominately Jewish, Irish, and Italian. In Jewish schools only food which complies with the Jewish religion and tradition was offered; in a similar way racial preferences were observed in Italian schools. In schools attended by both Hebrews and Italians, the problem was met by offering in the menu both Italian and Jewish dishes. The department of education at present makes no special provision for racial or religious preference, but serves the same kind of food at all schools.

The following is a typical menu provided by the board of education at the lunch rooms under its jurisdiction:

*Menus for week of April 19-23.*

Monday: Cocoa, buttered roll, stewed corn, stewed prunes.

Tuesday: Cream of pea soup, peanut and cottage cheese sandwich, brown Betty with lemon sauce, fruit tapioca (apricots or peaches, syrup served on top).

Wednesday: Vegetable soup, baked beans, vanilla cornstarch with chocolate sauce.

Thursday: Lima bean and tomato soup, buttered roll, cream tapioca, rice pudding.

Friday: Cocoa, salmon sandwiches, sliced fruit, and oatmeal cookies.

The main dishes listed above sell for 3 cents. In addition to these articles the child may purchase a slice of bread for 2 cents, a cup of milk for 3 cents, crackers (one sweet and one unsweetened) for 1 cent, and candy (either chocolate or hard candy) for 1 cent. For 10 cents a child is able to buy a wholesome, substantial lunch consisting of three main dishes and a sweet, either a cracker or candy.

The Brooklyn school-lunch committee provides daily a soup, a baked or stewed dish, and a dessert, either in the form of pudding or fruit. Crackers and candy are also sold for 1 and 2 cents. The following is a list of the main dishes served during the past year:

Three cents each: Soups—Yellow split pea, green split pea, cream barley, barley vegetable, white bean, cream lima, lima and rice, lentils, tomatoes and rice, macaroni and tomato.

Three cents each: Vegetables—Baked beans, baked lima and rice, baked lima and macaroni, baked macaroni and cheese, baked macaroni and tomatoes, carrots and green peas.

Two cents each: Desserts—Rice pudding, chocolate pudding, cornstarch pudding, tapioca pudding, baked yellow meal and raisins.

Two cents each: Fruits—Prunes, apricots, peaches, apple sauce.

*Preparation of the food.*—In the preparation of the food three plans are followed. In the independent kitchen plan a separate kitchen plant is provided for each school in which a lunch is served. In the group kitchen plan a kitchen is maintained not only for serving the children in that particular school, but in four or five schools in the immediate vicinity. In the central kitchen plan the food is prepared in a large plant and transported to the various associate schools. The central kitchen plan differs from the group kitchen plan in that the kitchen is located outside of the regular school building and serves a larger number of schools. In Brooklyn only the independent kitchen plan is followed.

Both the group kitchen plan and the central kitchen plan involve the problem of transportation. When the group kitchens were first put into operation in New York, the food was transported to the outside centers in pushcarts. With the establishment of the large central kitchen, however, this expedient became obviously inadequate, for it was then necessary to deliver the food in a hot condition to 20 schools within two or three hours. Motor trucks and horse-drawn vehicles, therefore, were installed to transport the food from the large central kitchen to the outside schools.

*Is the central kitchen plan economical.*—In New York the central kitchen plan was not adopted solely for the purpose of economy. In many schools where a lunch was badly needed it was impossible to prepare the food on the premises, either because there was inadequate space for a kitchen or because the principal objected to cooking in his building. The expedient of preparing the food elsewhere, therefore, was adopted. In order to determine the economy of the centralized plan a study was made of the labor cost of the New York school-lunch committee. The following is the summary of the labor cost under the independent and centralized plan for the years 1917, 1918, and 1919:

*A comparison of the weekly pay roll of the New York school-lunch committee for the years 1917, 1918, and 1919.*

1917.

Central kitchen.	Number of schools served.	Total weekly pay roll.	Weekly pay roll per school.	Daily pay roll per school.
Public School 95.....	4	\$45.10	\$11.27	\$2.25
Public School 92.....	7	77.00	11.00	2.20
Public School 21.....	5	56.00	11.20	2.24
Public School 94.....	1	9.00	9.00	1.80
Public School 4, Bronx.....	1	24.50	24.50	4.90
Public School 90.....	2	26.50	13.25	2.65
Public School 109.....	5	66.00	13.20	2.64
Public School 47.....	3	20.00	6.66	1.33
Public School 48, Bronx.....	5	38.50	38.50	7.70
Public School 11.....	5	48.40	9.68	1.93
Total and average.....	34	408.00	11.85	2.37

1918.

Public School 96E.....	20	\$285.00	\$14.25	\$2.85
Public School 94.....	1	15.00	15.00	3.00
Public School 47.....	3	38.50	12.83	2.56
Public School 4, Bronx.....	1	32.00	32.00	6.40
Public School 48, Bronx.....	1	39.00	39.00	7.80
Public School 109.....	5	69.50	13.90	2.78
Public School 90.....	2	35.50	17.75	3.55
Total and average.....	33	515.00	15.61	3.12

*A comparison of the weekly pay roll of the New York school-lunch committee for the years 1917, 1918, and 1919—Continued.*

1919.

Central kitchen.	Number of schools served.	Total weekly pay roll.	Weekly pay roll per school.	Daily pay roll per school.
Public School 98E.....	14	\$289.00	\$20.64	\$4.13
Public School 94.....	1	25.00	25.00	5.00
Public School 47.....	3	76.00	25.33	5.06
Public School 4, Bronx.....	1	57.00	57.00	11.40
Public School 48, Bronx.....	1	68.00	68.00	13.60
Public School 109.....	4	111.00	27.50	5.50
Public School 90.....	2	52.00	26.00	5.20
Total and average.....	26	678.00	26.00	5.20

To the labor cost of the central kitchens must be added the cost of transportation. For the year 1919, the average daily transportation cost per school was \$1.75. The average cost of serving the lunches during 1919 was as follows:

Central kitchen.	Number of units.	Average daily cost.
Public School 98E.....	14	\$5.88
Public School 94.....	1	5.00
Public School 47.....	3	6.81
Public School 4, Bronx.....	1	11.40
Public School 48, Bronx.....	1	13.60
Public School 109.....	4	7.25
Public School 90.....	2	6.95

While the labor cost appears to be about twice as great in the two Bronx schools, the patronage in these schools was from two to three times as great as the average for the other schools and required a proportionately larger staff to handle it. The above figures indicate that the per unit labor cost diminishes with the number of units operated. The large kitchen at Public School 98E, an abandoned public-school building, is by no means used to its full capacity. This kitchen can easily supply food for 50 schools. It is likely, therefore, that with the further extension of the service from this center a real saving in labor cost will be realized.

*Is the school lunch self-supporting?*—School feeding practice in New York has rigidly adhered to the sound principle that the child should pay for the food he eats. In Manhattan the receipts from the lunches have always covered the cost of the raw food and part of the cost of its preparation. In Brooklyn the service has from the beginning been entirely self-supporting. The following is a summary of the receipts and expenditures for the New York school-lunch committee for the last year of its service (1918-19):

Income.		Expenditures.	
Receipts from lunch sales.....	\$34,794	Food.....	\$25,083
Deficit.....	27,234	Salaries and wages.....	28,965
		Transportation.....	7,132
		Miscellaneous.....	848
Total.....	62,028	Total.....	62,028

The operation entailed a net loss of \$27,234 when all the items entering into the service are considered. Receipts, however, covered the cost of the food, with a balance of \$9,711 to be applied toward service.

The following financial statement for the Brooklyn school-lunch committee for the year 1919-20 shows a profit of \$1,386.81:

Income.		Expenditures.	
Sale of lunches.....	\$25,505.09	Salaries and wages.....	\$5,839.75
		Food.....	18,031.76
		Miscellaneous.....	246.77
		Total.....	24,118.28
		Profit.....	1,386.81
			25,505.09

The financial success of the Brooklyn lunch is due to the low labor cost and to the excellent attendance at all of the lunches; both of which factors are largely due to the industry and efficiency of the school-lunch manager. Great economies in labor are effected by the arrangement of the lunch rooms, which is such that only one person is required to prepare and serve the food and take the pennies from the children. In Manhattan, however, the committee has usually been obliged, because of the lack of suitable space, to set up tables in the playground, an arrangement which necessitates at least two workers in most schools. The Brooklyn committee has been able to secure workers at less than the current rate of wages for such service, while the New York committee has paid the prevailing rate for domestic service. For this reason wages are 40 per cent less in Brooklyn than in Manhattan. The financial success or failure of the two committees in the last analysis is a result of policy pursued by each. The New York committee has deliberately chosen schools for its service in which the need appeared great, regardless of the suitability of the building and regardless of the volume of business to be secured. The Brooklyn committee, on the other hand, set out with the deliberate policy of making the lunches self-supporting and has consistently confined its activities to schools which offered suitable facilities and which could insure a good return.

When the board of education planned to take over the lunches in Manhattan it soon recognized that to make the service entirely self-supporting would necessitate charging prices which would exclude from the service many of the children who needed it most. It therefore determined to cover the cost of food with the receipts from the lunch sales and to appropriate city funds to cover entirely the cost of supervision, labor, and equipment. Such a course is amply justified on the grounds that a lunch service, properly administered, is educational, and that the community and not the school child should bear this expense. At this writing a complete statement of the cost of the service under the department of education is not available. The department, however, selected its workers for the most part from the former staff of the New York school-lunch committee and has compensated them at about their former rate.

*Provision for necessitous children.*—No systematic provision is made for supplying free meals to needy children. The principle has been that if a child's parents can not supply him with the few pennies needed to purchase an adequate school lunch, the mere doling out of a free school lunch is not an adequate remedy for the condition. School-lunch workers have therefore relied on the existing charitable agencies to take care of such families. One organization supplies more than a hundred children daily with free meals. This organization investigates the homes of children who can not pay for their lunches, and if it finds real need a 5 cent meal ticket is provided for each child every school day. Similar arrangements are made by the Brooklyn committee, through the Brooklyn bureau of charities and other agencies.



**Educational aspect.**—Under private management it was never possible to make the lunches thoroughly educational, and this fact constituted the strongest argument for placing the full responsibility in the hands of the board of education. The coordination which has now been effected between the department of domestic science and the school-lunch department makes it possible to present to the child, in a practical way, the relation of proper food to health. The menus are planned by the supervisor of cooking classes. The preparation and distribution of the food is directed by the manager of school lunches. The purchase of equipment, food, and supplies is handled by the purchasing agent of the board, the superintendent of supplies. All of these officials are responsible to one of the associate superintendents of schools who coordinates all branches of the work. In many of the schools the mothers are invited to attend the lunches, where one of the domestic science teachers points out to them the value of the particular dishes served and urges them to prepare similar food in the home. In schools in which cooking is taught, the product of the cooking classes is often sold at the lunch counter. This plan enables the girls to cook the quantity required by a family rather than by an individual and is a valuable expedient in enlisting the interest of the children in the school lunch. In talks to the children on the relation of food to hygiene the school-lunch menu for the day is used as the "text." The associate superintendent of schools who is responsible for the school-lunch work is convinced that the lunches will have little permanent value to the community unless they are thoroughly educational and intends that this aspect will be emphasized as the system is developed and extended.

**High-school lunches in New York City.**—A recent study shows that the school lunch is available for 85 per cent of the high-school pupils of New York City. The service is operated either by a concessionaire or by the general organization of the school. Under the concessionaire system the privilege of serving a lunch in the school building is given to an individual, with no charge for rental or for the initial equipment. Unfortunately, no requirements are made as to the quality of food sold or the prices charged. The system is gradually being discarded and the control of the school lunch placed in the hands of the general organization of the school, made up of teachers and students. The result is that usually better food is served at lower prices and that the profits, if there are any, go to support other student activities rather than to enrich commercial caterers.

*Types of administration of high-school lunch service and number of pupils to whom such service is provided.*

[Prepared by the Bureau of Municipal Research.]

	Total.	Manhattan.	Bronx.	Brooklyn.	Queens.	Richmond.
General organization.....	36,663	12,479	.....	21,079	3,135	.....
Concessionaire.....	19,265	10,256	7,433	.....	386	1,180
No service.....	9,348	1,572	712	3,861	3,203	.....
Total.....	65,306	24,307	8,145	24,940	6,734	1,180

**Character of the meals.**—The prices charged and the quality of the food vary considerably in different schools. In general, the food served at the lunch room operated by the student organization is better in quality and cheaper than in those operated by a concessionaire. The following is a list of the food served at different schools:

Milk, cocoa, muffins, crackers. Soups: (1) Vegetable, (2) tomato, (3) bean, (4) pea. Meats: (1) Beef, (2) ham, (3) croquettes. Fish: (1) Oysters,

(2) codfish, (3) halibut. Hot dishes: (1) Beans, (2) macaroni, (3) rice, (4) peas, (5) potatoes, (6) corn, (7) tomatoes. Sandwiches: (1) Ham, (2) lettuce, (3) roast beef, (4) hamburger. Salads: (1) Fruit, (2) potato, (3) tuna fish, (4) shrimp. Desserts: Pudding—(1) Rice, (2) chocolate, (3) cornstarch, (4) bread. Custard—(1) Plain, (2) banana, (3) peach. Pies—(1) Chocolate, (2) apple, (3) peach. Sauces—(1) Apple, (2) apricot. Ice cream. Cooked fruits: (1) Baked apples, (2) escalloped. Cakes: (1) Cookies, (2) buns, (3) jelly or jam, (4) gingerbread, (5) short cake. Fruits: (1) Apples, (2) bananas, (3) oranges. Candies.

Prices vary so much in different schools, and in all schools from year to year, that no attempt has been made to cite prices for each article listed above. Soups are usually from 5 to 10 cents; meats, 15 cents or more; and desserts from 5 to 10 cents.

*Cost of the meals.*—The fact that the concessionaires gladly accept the privilege of operating high-school lunches is in itself ample evidence that the service can at least be self-supporting. Of the high schools reporting to the Bureau of Municipal Research, only one showed a deficit. The following is a financial statement of 10 high-school lunch services. It is interesting to note that in each case the service was operated by the general organization of the school. In such instances the aim is not to make a large profit, as in the case of concessionaires, but to render the very best type of service at the lowest possible cost.

*Receipts and expenditures (1916-17) for school-lunch service administration under the general organization of 10 high schools.<sup>1</sup>*

[Prepared by the Bureau of Municipal Research.]

High school.	Receipts.	Expenditures.	Deficit or surplus.
Bushwick.....	\$15,113.38	\$15,566.18	* \$452.80
Commerce.....	8,661.86	8,465.63	196.23
Commercial.....	19,518.69	18,161.42	1,357.27
DeWitt Clinton.....	32,700.21	32,733.75	33.54
Erasmus Hall.....	27,008.13	26,721.97	286.16
Girls.....	12,426.51	12,209.90	216.61
Julia Richman.....	15,220.21	14,566.91	653.30
Manual Training.....	13,933.11	12,844.02	1,089.09
Richmond Hill.....	5,110.05	5,018.58	91.47
Bay Ridge.....	12,586.70	12,577.13	9.57

<sup>1</sup> No report from eastern district, Flushing, Jamaica, Newtown, and New Utrecht.

\* Deficit.

*Educational aspect.*—The high-school luncheon ought to be educational in spirit; that is, it ought to instill in the pupils a taste for good and wholesome food and some idea of its economic value. In the Julia Richman High School, particularly, this phase of the work has been well developed. When the luncheon was first undertaken there, a series of food bulletins was prepared and issued daily to the pupils. These bulletins discussed in simple language the fundamental scientific aspects of food and its relation to health of the individual. The school-lunch work in that high school is also coordinated in an interesting way with that of the teaching of domestic science. All of the work of preparing and serving the food, with the exception of the most menial work, is performed by domestic-science pupils.

#### SCHOOL LUNCHES IN PHILADELPHIA.

Philadelphia has an excellent school-lunch system. For many years school lunches were operated in the elementary schools there by a volunteer organization known as the Home and School League. In 1915 this service was taken over by the board of education and added to the department of high-school

lunches, which for several years had served lunches in the high schools. In 1914-15 school lunches were operated in seven schools. The service was extended each year until in 1917 it embraced 25 elementary schools and 16 high schools.

*Organization.*—The advantage of combining the high and elementary lunch systems is that it enables the director to purchase food and equipment advantageously and to distribute labor and overhead costs economically over the large number of units. At the head of the bureau of school lunches is a director who is responsible for the entire administration and the financial success of the school-lunch system. The city makes no contribution to salaries or office expenses, but has provided much of the initial equipment for the various kitchens and centers. The school-lunch director has been obliged, however, to replace much of the equipment out of the proceeds of the lunches. She is obliged to make the service entirely self-supporting and to pay her own salary and that of her staff from the receipts from the various centers. The service is therefore practically no financial burden to the city. The profits which are made from the service in the high schools are applied to the deficits of the elementary schools.

*Lunches in elementary schools—Character of the meal.*—Philadelphia has from the beginning served a midmorning lunch to the pupils in the elementary schools. It was found that the morning recess, which begins usually at 10:30 a. m., and lasts a half hour, gives the children an opportunity to purchase inferior foods and candies from neighborhood dealers. Partly for the purpose of counteracting this evil and also to provide a warm, nutritious morning meal for those children who had received either an inadequate breakfast or none at all, the midmorning lunches were established. The following is a list of a few of the dishes offered in the elementary schools: Milk, cocoa, crackers, chocolates, fruits, oatmeal, and jam sandwiches.

*Service in the high schools.*—The food served in the Philadelphia high schools is of excellent quality and is prepared and served with scrupulous attention to sanitation and cleanliness. The dining rooms are equipped with long stationary tables with swivel seats. The children usually remove the soiled dishes and return them to the lunch counter, a practice which not only results in great saving in the labor costs, but is also an excellent training for the children in cleanliness and order. The service in each high school is under the charge of a trained dietitian, who is, of course, responsible for preparing the menus and supervising the service in general.

*Financial aspect.*—Except for food, no separate account is kept of the high and elementary lunch systems. It is expected that the elementary school lunches will be operated at a loss, while those of the high school earn a fair profit. The city assumes no financial responsibility for the service other than to equip the lunch rooms. The director of school lunches must, therefore, maintain a self-supporting service. The board of education has not been supplying adequate funds for the replacement of equipment and unless this policy is soon changed the service is seriously threatened. The financial statement for 1919-20 shows \$10,467.26 was paid for equipment and repairs. This money was taken out of the profits of the business, with the result that there was actually a deficit of \$2,874.22, which was paid out of the bank balance from previous years and from a few small donations. The following statement gives an excellent summary of receipts and expenditures of 1919-20:

*Receipts.*

From lunches—high schools.....	\$309, 627. 68
From lunches—elementary schools.....	29, 806. 71
From donations.....	31. 64
From other sources.....	293. 40
<b>Total receipts.....</b>	<b>339, 759. 43</b>
Balance June 1, 1919.....	6, 604. 94
	<b>346, 364. 37</b>

*Expenditures.*

Salaries and wages.....	\$86, 892. 62
Food, high schools.....	217, 185. 10
Food, elementary schools.....	23, 173. 81
Laundry and petty expenses.....	1, 985. 00
Equipment, replacements.....	10, 467. 26
Other expenditures.....	2, 604. 82
<b>Total expenditures.....</b>	<b>342, 308. 61</b>
Balance in bank June 1, 1920.....	4, 055. 76
	<b>346, 364. 37</b>

While it is not possible to determine exactly the deficit in the elementary schools, the above statement indicates that the receipts in such schools more than covered the cost of the food. The total receipts from elementary schools was \$29,806.71, while the expenditures for food was \$23,173.81, which leaves a balance of \$6,722.90 to be applied toward salaries and wages.

## CHICAGO.

Chicago has the most intensive school-lunch system in America. Lunches are served in all high schools, in the Chicago normal schools, and in 60 elementary schools. The board of education assumes full responsibility for the work. Most of the high-school children attend the lunch room for part of their meal at least, and in the elementary school approximately 31,000 children are served daily. The work is under the general direction of the director of special schools, who is assisted by a supervisor of penny lunch rooms.

The food is prepared in each school, since the central kitchen plan has never been undertaken because of the cost of transportation. The lunch is served either at the morning recess (10.30 a. m.) or at noon. The variety of the food served is attested by the following menus selected at random from three schools:

## ADAMS.

Monday: Cocoa; sandwiches (sausage, jam, peanut butter, butterine). Tuesday: Tomato and spaghetti soup, with meat stock; cocoa; sandwiches. Friday: Cocoa; pea soup; sandwiches.

## CLAY.

Monday: Cocoa and cracker; cheese sandwich; apple butter sandwich. Tuesday: Bean soup; hot frankfurter sandwich; peanut-butter sandwich. Wednesday: Corn or rice soup, with cracker; hot beef-loaf sandwich; apple-butter sandwich. Thursday: Spaghetti soup; veal sandwich; apple-butter sandwich. Friday: Stewed prunes, with raisins and apricots; salmon sandwich; apple-butter or peanut-butter sandwich.

## FROEBEL.

Monday: Cocoa; jelly sandwich; rice pudding. Tuesday: Lima beans; soup with vegetables; sausage sandwiches; bread pudding. Wednesday: Split pea

soup with vegetables; butter sandwich; tapioca pudding. Thursday: Kidney-bean soup; sausage sandwich; spaghetti. Friday: Cocoa; jelly sandwich; graham crackers; chocolate pudding.

## DORE.

Monday: Soup, meat stock with rice or barley; meat sandwich, 2 cents; bread and milk (1 slice, one-fourth pint milk), 1 cent; jelly bread. Tuesday: Meat sandwich (sausage), 2 cents; jelly bread; bread and milk; apple sauce (1 portion with bread), 1 cent. Wednesday: Beans; bread and milk; prunes (1 portion with slice of bread), 1 cent; jelly bread. Thursday: Meat sandwich; chocolate pudding (Gumpert's prepared chocolate pudding); bread and milk; jelly bread. Friday: Hot cocoa; bread and milk; jelly bread; pie (lemon cream or fruit).

## HAYES.

Monday: Cocoa; cookies; sandwiches (sausage and apple butter). Tuesday: Lima-bean soup; sandwiches; cookies. Wednesday: Macaroni with tomato sauce; stewed prunes; sandwiches; cakes. Thursday: Baked beans; sandwiches. Friday: Cocoa; prunes; cookies; sandwiches.

A better idea of the quality of the food served and its cost can be obtained from a few sample recipes with the caloric value and costs worked out for each. The following are a few typical recipes:

## HOLDEN.

Cocoa, 1 pound.  
Sugar, 1½ pounds.  
Milk (skim), 4 gallons.  
Water, 2 gallons.

Cost, \$1.85.	
Portions, 150.	
Calories per portion	68
Bread	63
Total	131

## MARSH.

Cocoa, 1½ pounds.  
Sugar, 3 pounds.  
Milk, three 2-pound cans.  
Water, 8 gallons.

Cost, 86 cents.	
Portions, 100.	
Calories per portion	130
Bread	63
Total	193

## HATES.

Lima beans, 6 pounds.  
Snow drift, 1 pound.  
Potatoes, 3 pounds.  
Flour, 4 pounds.  
Onions, 6 pounds.  
Celery, 1 stalk.  
Water to make 11 gallons.

Cost, \$1.56.	
Portions, 200.	
Calories per portion	99
Bread	63
Total	162

## FARREN.

Peas, dried, 12 pounds.  
Bacon, 1 pound.  
Crackers, 4 pounds.  
Water to make 60 quarts.

Cost, \$1.92.	
Portions, 250.	
Calories per portion	119
Bread	63
Total	182

## WALSH.

## Rolled oats and milk.

Rolled oats, 2 pounds (cooked in fireless cooker over night); served with whole milk and sugar.  
Milk (whole), 4 quarts.  
Sugar, 1 pound.

Cost, 79 cents.	
Portions, 70.	
Calories per portion, 95.	

## BELL.

## Creamed potatoes and peas.

Potatoes, 33 pounds.  
 Peas, three 20-ounce cans.  
 Milk (skim), 2 quarts.  
 Flour, 1 pound.  
 Butterine,  $\frac{1}{2}$  pound.

Cost, \$1.80.  
 Portions, 180.  
 Calories per portion, 100.

## HOLDEN.

## Baked beans.

Navy beans, 15 pounds.  
 Syrup,  $1\frac{1}{2}$  pints.  
 Salt pork, 12 ounces.

Cost, \$1.94.  
 Portions, 300.  
 Calories per portion, 142.

## FROEBEL.

## Bread pudding.

Bread,  $4\frac{1}{2}$  pounds.  
 Sugar,  $\frac{1}{2}$  pound.  
 Milk (skim), 1 quart.  
 Raisins,  $\frac{1}{2}$  box.  
 Eggs, 3.  
 Vanilla, 2 teaspoonfuls.

Cost, 62 cents.  
 Portions, 65.  
 Calories per portion, 116.

## BELL.

## Ginger bread.

Flour, 4 pounds.  
 Butterine,  $\frac{1}{2}$  pound.  
 Sugar, 2 pounds.  
 Molasses, 4 cups.  
 Soda, 4 teaspoonfuls.  
 Cinnamon, 4 teaspoonfuls.  
 Ginger, 2 teaspoonfuls.  
 Eggs, 3.  
 Salt, 1 teaspoonful.

Cost, \$1.25.  
 Portions, 125.  
 Calories per portion, 121.

It will be noted that the caloric value is a little low for each portion of food. A child selecting a soup with bread and a dessert would receive from 250 to 300 calories, whereas in the New York and Brooklyn lunches he would secure about 350 to 450 calories. This difficulty could easily be overcome by increasing both the price and the size of the portion. Most of the soups cost less than 1 cent a portion; by doubling the portion a more adequate lunch could be provided and at a price which all could pay. By increasing the amount of milk used in the cocoa a much more nourishing portion could be served at a slightly increased cost.

*Cost of the service.*—The supervisor of penny lunch rooms does not keep a detailed account of expenditures. The board of education pays for the entire cost of labor and equipment. This for the year 1919-20 amounted to about \$70,000. The service in the high schools is entirely self-supporting.

## BOSTON.

For many years no provision was made for lunches in the elementary schools in Boston. During the war, however, school feeding was undertaken by a voluntary committee as part of the food-conservation work and is still continued. This committee secured from several large butchers the brisket bone and other portions of the beef carcass which prior to that time had not been used for human food but sold for fertilizers and other purposes. By adding a few vegetables this material is used in making a beef soup, which is sold at several of

the Boston schools for 1 cent. Bread, cocoa, and other foods are also sold at cost price. A large part of the work is performed by volunteers to keep down expenses and thus to aid in extending the service. It is hoped that this effort will be an entering wedge toward securing an adequate school lunch for the children in the elementary schools of Boston.

The high-school lunches in Boston compare favorably with those of any city in the country. The lunches are administered by a private society known as the Women's Educational and Industrial Union. The food is prepared in a large central kitchen plant under ideal conditions and transported to the various schools, where it is served. Provision is made in most of the schools, however, for rewarming the food after it reaches the school. An excellent system of accounting has been installed and the working staff is well organized. The following is a list of the various portions offered for sale:

Soup: Cream of cabbage, beef and rice, vegetable mulligatawny, split pea, lima bean. Sandwiches: Egg sandwich, fruit butter, chopped ham, cheese and pimento, minced tongue, raisin and nut, sardine sandwich, Creole, sliced ham, olive salad. Bread specials: Bran muffins, corn muffins. Hot specials: Creamed carrots and peas, baked beans, vegetable salad, American chop suey, fish hash, samp with tomato and cheese. Dessert or salad: Chocolate bread pudding, wh. cr.; blanc mange, strawberry sauce; apple tapioca, wh. cr.; spiced prune, wh. cr.; coffee jelly, wh. cr. Cake or pie: Fig cream pie, liberty cake, chocolate cream pie, sponge cake. Ice cream: Macaroon, pistachio, pineapple, raspberry, macaplenut.

Articles always provided are lettuce and bread and butter, sandwiches, milk, cocoa, custards, plain cake, fruit, and sweet chocolate, apples, bananas, peanut butter and jam in rye rolls.

The high-school service for many years was entirely self-supporting, but since 1917 a slight deficit of from \$1,000 to \$2,000 annually has been incurred.

#### ST. LOUIS.

In 1911, the board of education of St. Louis undertook to conduct a lunch service in its schools. It was decided, however, that it was illegal to spend public funds for the purchase of food and the board was obliged to abandon the work. The Penny Lunch Association, a voluntary society, then assumed full responsibility for the service even to equipping the lunch rooms. During the school year 1918-19 lunches were conducted in seven elementary schools. Most of the service except the actual cooking of food is performed by volunteers. The service in the high schools is under the direction of the education authorities and is more than self-sustaining. Lunch is served in six high schools and a normal school. For the school year 1918-19 the board of education reported a profit of \$141.70.

#### LOS ANGELES.

The board of education of Los Angeles has charge of lunch rooms in 9 high schools, 8 intermediate schools and 31 elementary schools. It is estimated that from 450 to 1,800 pupils attend the lunches daily in each of the high schools, from 700 to 1,000 in each of the intermediate schools, and about 120 in each of the elementary schools.

The supervisor of the home economics department directs the lunch work in all schools. In the elementary schools the lunches are managed by the cooking teacher. In the high and intermediate schools the lunches are managed either by the student body association or by a cafeteria director from the home economics department. When the lunch is managed by the student

body association one of the teachers, not necessarily a teacher of home economics, supervises the work.

The elementary schools selected for the service are those in which the amount of defective nutrition is greatest. The principals and teachers in these schools see that the undernourished children are fed at noon. In urgent cases a lunch of bread or crackers and milk is served at 10 o'clock in addition to the noon meal. The food is usually sold at about cost price, but when the child is unable to pay it is sold below cost or supplied free. The deficit is made up by the Parent-Teacher Association or other philanthropic societies. Children who are supplied with free meals are given work in the home economics department or elsewhere to make them feel that they are not objects of charity.

*Cost of the service.*—The service in the high and intermediate schools is entirely self-supporting, largely because of the economies effected through cooperative buying on the part of teachers and pupils and because of the service given by the pupils for which food is the only compensation received. The receipts in the elementary schools for 1919-20 were \$42,000; the cost of food was "approximately" \$80,100.07. There is no complete record of other expenses, but the supervisor states that there "was no surplus."

#### LOUISVILLE, KY.

Louisville was the first city of the South to establish a school lunch under the management of the school authorities. In 1913, school lunches were begun as a volunteer service. The success of the undertaking encouraged the board of education to equip successively five lunch rooms. In 1916, the board of education assumed full responsibility for the work and established a department of school lunches to administer the service. Since this department has no revenue except the daily receipts from the lunch room, the service must be self-supporting.

The lunch is served in the middle of the forenoon "to supplement an insufficient or faulty breakfast or a breakfast hastily eaten." The menus, which are uniform for all schools, include milk or cocoa, soups, creamed vegetables, sandwiches, fruits, small cakes, and milk chocolate. These articles sell at 2 cents a portion. At the vocational schools, where the luncheon is planned to take the place of the home dinner, the food sells for from 3 to 5 cents a portion.

In the most successful lunch rooms the meal is made a social hour. Each class has its own table, at which the teacher presides as hostess. A spirit of companionship and mutual respect is cultivated which has a most wholesome effect on both teacher and pupil.

#### OTHER CITIES.

Besides the work in the cities mentioned, school feeding is carried on in Pittsburgh; Cleveland; Cincinnati; Rochester, N. Y.; Houston, Tex.; Mobile; Minneapolis; Indianapolis; Milwaukee; Springfield, Mass.; and many other cities. Since it is obviously impracticable to give a detailed account of the work in each of these cities, important as it is in many cases, the description has been confined to those cities which have developed the work most extensively and is sufficiently varied to cover every type of service now being carried.

#### RURAL-SCHOOL LUNCH.

It is only recently that the need for a school lunch in rural communities has become apparent. Country children often travel long distances to school and



are obliged to carry their lunches with them. Instead of milk, vegetables, and fresh eggs, the lunch of the country child of to-day often consists of soggy pancakes, canned foods, and indigestible pies and cakes. The purpose of the rural-school lunch is to encourage the children to bring wholesome foods with them and to prepare hot nourishing dishes from them during the noon hour. The country-school lunch properly conducted thus fills a real educational need. The school lunch is often used as the sole means, and a most practical one, of giving the children a much needed training in home economics. The children are taught not only how to prepare food properly and given some appreciation of the relative value of foods, but also in setting the table and in observing table manners and other social amenities.

The expense of the rural-school lunch is very slight. A storeroom, which is usually already in the schoolhouse, a few cooking utensils, and a store closet are sufficient to equip a school lunch. These are either supplied by the parents of the children or out of the school funds. The children either bring their food with them or pay for the cost of the food, which is purchased at reasonable prices in the neighborhood.

In many States the work is promoted by the extension division of the school of agriculture. Minnesota, Kansas, and Nebraska provide extension courses for training teachers for this work and supply pamphlets and circulars which give practical instruction in providing a school lunch.

#### SPECIAL FEEDING.

Besides the regular school lunch, special feeding is frequently provided for anemic, tubercular, and badly undernourished children, usually in open-air classes. In England and Germany such children receive their full nutrition at the open-air schools. In America, as a rule, the food supplied is intended only to supplement that which the child receives at home (15).

#### ROCHESTER, N. Y.

In Rochester children of the open-air classes receive their full quota of nutrition in the school. The meals are planned with scientific care in order to insure that the child shall receive the full ration required by him for recovery and growth. The following schedule of the meals supplied in the Rochester classes illustrates how thoroughly the work is done:

#### MENU.

Breakfast—Oatmeal with sugar and cream; a glass of milk.

Lunch at 11 o'clock—A glass of milk.

Dinner—Pot roast of beef; mashed potatoes; corn; bread and butter; milk; baked apples with cream.

Afternoon lunch—Cocoa and bread.

*Food value of the Rochester daily menu.*

## BREAKFAST.

Food material.	Amount.	Grams of—			Cost (as of 1916).
		Protein.	Fat.	Carbo- hydrate.	
Oatmeal, pound.....	1	113.5	49.6	450.3	\$0.075
Milk (whole), quarts.....	6	180.0	217.2	271.2	.360
Sugar, pound.....	1	.....	.....	453.6	.070
Total for 30 children.....	.....	293.5	266.8	1,175.1	.505
Per capita.....	.....	9.7	8.8	39.1	.017

## 11 O'CLOCK LUNCH.

Milk for 30 children, quarts.....	5	150.0	181.0	226.0	\$0.300
Per capita.....	.....	5.0	6.0	7.5	.010

## DINNER.

Potatoes (1 peck), pounds.....	15	121.5	6.0	999.0	\$0.325
Beef (rump roast), pounds.....	7	437.5	641.2	.....	1.120
Corn (canned), cans.....	3	38.1	16.2	258.3	.300
Apples, peck.....	1	86.4	130.0	3,597.6	.400
Brown sugar, pound.....	1	.....	.....	430.0	.066
Milk (whole), quarts.....	8	240.0	289.6	361.6	.480
Butter, pound.....	3	3.4	289.1	.....	.300
Bread, loaves.....	4	166.8	21.6	943.2	.200
Total for 33 individuals.....	.....	1,093.7	1,383.7	6,609.7	3.191
Per capita.....	.....	33.1	41.9	200.3	.093

## AFTERNOON LUNCH.

Milk (whole), quarts.....	5	180.0	181.0	226.0	\$0.300
Cocoa, can.....	1	26.6	32.5	42.5	.115
Sugar, pound.....	1	.....	.....	226.8	.085
Bread, loaves.....	2	82.1	10.8	481.6	.100
Total for 30 children.....	.....	287.7	224.3	956.9	.550
Per capita.....	.....	8.6	7.4	31.9	.018

## TOTAL FOR THE DAY.

Per capita.....	.....	56.4	64.1	278.8	\$0.14
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It is interesting to compare the total quantity of food provided for each child daily in the Rochester schools with that which is usually deemed essential for the average school child. The following table gives the combined estimate of 15 food experts of the daily food requirement of a child of 10 years of age and average weight and that furnished in the open-air classes:

	Estimated daily re- quirement.	Amount furnished in open-air classes.
	Grams.	Grams.
Protein.....	60	56.4
Fat.....	40	64.1
Carbohydrates.....	250	298.8

The Rochester menus provide food in excess of the estimated requirement. The average number of children attending open-air classes in Rochester is only 30. One can readily understand that it would be possible to prepare such an elaborate and costly meal for so few children, while to provide such nutrition for hundreds or thousands of children would involve considerable expense and serious problems of policy and administration.

The food for the open-air classes in Rochester is prepared for the most part by the girls of the cooking class under the direction of the domestic science teacher. The advantages of this arrangement are that it offers a splendid opportunity for the children to receive a concrete lesson in providing a well-balanced daily menu for a comparatively small group of children and that they are able to effect considerable economies in labor.

#### CHICAGO.

The meals provided in Chicago open-air classes are nearly as liberal as those of Rochester. Mr. Sherman Kingsley states that the average daily cost per child for the food in such cases is 11 or 12 cents. The average daily food value is between 1,100 and 1,200 calories. The following typical menus offered for open-air classes in Chicago show that the children would require very little additional food at home:

Morning lunch—Cocoa, bread, jelly. Noon dinner—Browned beef stew, boiled potatoes, mashed turnips, bread, milk, farina pudding.

Morning lunch—Cocoa, bread, jelly. Noon dinner—Browned beef stew, boiled potatoes, potatoes, chocolate pudding.

In the Chicago open-air classes nearly 500 children were provided for. A great deal of attention is given to the educational aspect of the meal in instilling a taste for good food in the children and in urging the parents to provide better food for them at home.

#### NEW YORK CITY.

Special feeding is provided not only for the children of open-air classes in New York City, but also for crippled children and those suffering from cardiac effects. The type of food offered in each case is practically the same. It consists usually of a light lunch of milk and crackers or cereal and milk at either 10 o'clock in the morning or 2.30 o'clock in the afternoon, or at both times. A hearty noon lunch is provided for a few of the children of the open-air classes by the Brooklyn school-lunch committee and paid for by a philanthropic society. In some cases, the children pay 2 cents a day for the milk and crackers or cereal and crackers, which payment covers the cost of the food. In other instances, however, the food is provided without any cost to the children. Where a regular school-lunch service is provided, the children are naturally urged to attend. There is no way of telling what proportion of the child's nutrition is thus provided. The following is a schedule of the daily routine of open-air classes in New York City, which will give the reader some idea of the way that the feeding is worked in with other activities of the day (19): 9 to 10 a. m., school work; 10 to 10.15 a. m., extra feeding; 10.15 to 11 a. m., school work; 11 to 12 noon, rest period; 12 to 1 p. m., lunch period; 1 to 2.45 p. m., school work; 2.45 to 3 p. m., second extra feeding.

Where cereals or hot dishes are provided for the children, a simple kitchen equipment is usually installed, consisting of a small gas stove and a fireless cooker. The food is usually prepared by the teacher, while the children help in the service. The problem of service is very simple. The classes are limited

to 25 children. Fireless cookers are frequently made by the children in school shops or are presented to the school by friends who are interested in the classes.

#### LOUISVILLE, KY.

The department of school lunches of the board of education provides a light luncheon in the morning and afternoon and a full lunch at noon for the children in the open-air classes. A trained nurse visits the homes of the children and endeavors to interest the parents in preparing suitable food at home. It is impressed upon the parents that the food which the children receive at school is intended to supplement their regular daily ration and that the work can have no permanent effect without the mothers' cooperation.

#### ST. LOUIS.

The board of education of St. Louis provides a luncheon service in three open-air schools. One of these schools is a resident school, where 16 children are kept under medical supervision and given their full requirement of food until recovery. At the other schools the children receive a midmorning lunch and a "snack" before going home in the afternoon. Soup, cereal, and milk figure largely in the menus of these lunches. The children receive on the average 1,025 calories a day, at an average cost of 17 cents. The receipts from the children do not cover the cost of the food. The cost of the food in 1919 in the two larger schools was \$5,849.98; the receipts from the children were \$1,143.47. The deficit was paid entirely by the St. Louis Tuberculosis Society. The resident open-air school is maintained jointly by the board of education and the St. Louis Tuberculosis Association, the latter providing for the feeding of the children.

#### SCHOOL FEEDING AS A REMEDY FOR DEFECTIVE NUTRITION.

In England, as we have seen, school feeding is practically restricted to undernourished children, and particularly to those whose defective nutrition is due to poverty. The theory is that inadequate food is the primary cause of defective nutrition and that, conversely, an abundance of food is the remedy. School breakfasts and dinners are intended to supply what is lacking in the child's diet, and thus to restore him to normal health. The shortsightedness of this policy is now clear to school medical officers and others who are attempting to secure permanent results through school feeding. The application of the physical rather than the poverty test for selecting the children to be fed, the combination of school feeding with other branches of the school medical service, the development of the educational aspect of the service so that the child's, and through him, the parent's food habits will be permanently improved are suggested reforms which many progressive communities are already adopting.

The aim of the school lunch in America, however, has simply been to provide a warm, nourishing noon meal for children who would not otherwise receive one. No attempt has usually been made to select undernourished children further than to select for the service schools in congested neighborhoods where the amount of defective nutrition is likely to be greatest. Undernourished children are often provided for, as we have seen, through special feeding which is intended to supplement what the child receives at home or at the regular school lunch.

America has thus escaped the fatal error of regarding the mere provision of food as the sole remedy for defective nutrition. Fortunately, it is a simple matter to coordinate the school lunch or supplementary feeding with other methods of dealing with defective nutrition which are now being developed.

#### OTHER METHODS OF ATTACKING DEFECTIVE NUTRITION.

##### THE NUTRITION CLASS.

The nutrition clinics and the classes connected with them were originated by Dr. William R. P. Emerson, of Boston. In the fall of 1908 Dr. Emerson discovered in his hospital and clinic work a large number of "delicate" children of all social classes who failed to respond to most methods of treatment. At that time he made a study of four or five thousand children who were coming to the children's department of the Boston Dispensary. From this group he selected 15 out of the weakest and most poorly nourished group and organized them into a nutrition class, the object being, as he states, "to study every possible detail of their lives, with a hope that such study will explain their condition and that directions of hygiene and diet could be given to the group in much less time and much more effectively than to each one individually." Each child was provided with a small record book and required to state exactly everything he ate during the 48 hours following his initiation into the class and to give "the number of hours spent in sleep, time out of doors, the number of minutes at meals, and such other details as seemed necessary in each particular case." In addition to this record, a record was secured by a social worker who visited the homes of the children and reported on their housing conditions and the standards of hygiene maintained in the home.

In the nutrition class the children assemble in rows before charts labeled with their names, on which are indicated a curve showing the expected gain of the child and a curve showing his actual progress in weight since admission to the class. The display of the charts, which clearly indicates those who are gaining and those who are losing, furnishes an incentive for each child to outdo the other in carrying out faithfully the suggestions made to him for bringing his weight up to the normal expected for his age. The parents of the children are asked to attend the class and to see for themselves the progress which their own children and others are making.

If a child fails to make his expected gain during the week, the nutrition worker questions the child or looks up his record to ascertain the cause. It may be due to his not having taken a sufficient number of calories of food daily, to his failure to have his tonsils removed, to a bad cold, to fast eating or some other infraction of the health rules. The necessity for carrying out the suggestions of the physician or nutrition worker is thus driven home, with the result that at the next session the child has probably carried out his instructions and shows a gratifying gain.

The nutrition class method with various modifications and further development has been widely copied throughout the country by workers who are aroused as to the seriousness of defective nutrition. Nutrition classes are multiplying so rapidly that a brief description of the modifications to the original plan which have been worked out in representative communities must suffice.

##### NEW YORK CITY.

The New York Association for Improving the Condition of the Poor has found that nutrition work accomplishes most lasting results when it is coordinated with all other agencies dealing with the health of the child (5). The nutrition work

of this association is an integral part of a larger, preventive health program which it is carrying out on an intensive basis in a congested district of 32,000 population. The essential steps in this are prenatal instruction for all expectant mothers in the district, suitable arrangements for the birth of the child, postnatal instruction for the mother, the periodical weighing and complete physical examination of all the children, and immediate attention to the removal of all the defects which the doctor discovers. To do this, in addition to existing facilities, the association employs 15 nurses, 5 dietitians, 1 physician to examine the children and another to examine the pregnant mothers, 3 dentists, and 3 dental hygienists.

Not the least important feature of the examination clinic is that of a feeder for the nutrition workers. It is here that defective nutrition is discovered in its earliest stages before its effects have become permanently fixed and before the habits leading to the condition are firmly established. All cases of defective nutrition discovered by the doctor are at once referred to the nutrition worker for correction.

The children of school age are organized into nutrition classes which meet in the public schools of the neighborhood. The work in the nutrition class is accompanied by visits of the dietitian to the home to give practical instruction to the mother in the preparation of the right kinds of food and in demonstrating to her the benefits of conforming with the suggestions made by the nutrition worker. At first the visits are made once a week, but later every two weeks. One dietitian can take care of 50 children, weighing them weekly, meeting with them once a week in the nutrition class and visiting the homes.

With the children of preschool age the class method is obviously impracticable and the work must be accomplished entirely through work with the mother in the home. Since it is impossible for most of the mothers to bring their little tots to the clinic every week to be weighed and to receive the necessary instruction, the nutrition workers go to them. A portable scale capable of weighing up to 120 pounds has been secured which the nutrition worker can take with her on her weekly visits to the home. The child is weighed in the presence of the mother. A failure to gain gives the worker an effective opening in persuading the mother to carry out the instructions faithfully. For the most part, children with whom the association undertakes to do intensive work are continued for a period of 16 weeks and longer if conditions warrant and if the physician decides it will be helpful. Children are dropped from intensive work when a satisfactory gain has been made for a period of 16 weeks or longer and when the improvement in food and health habits and in the correction of physical defects has been sufficient to require constant supervision. But the child is still kept under observation. The home is revisited about once a month and the child reweighed, and if the child has lost in weight and fallen back into his old habits intensive work is again resumed.

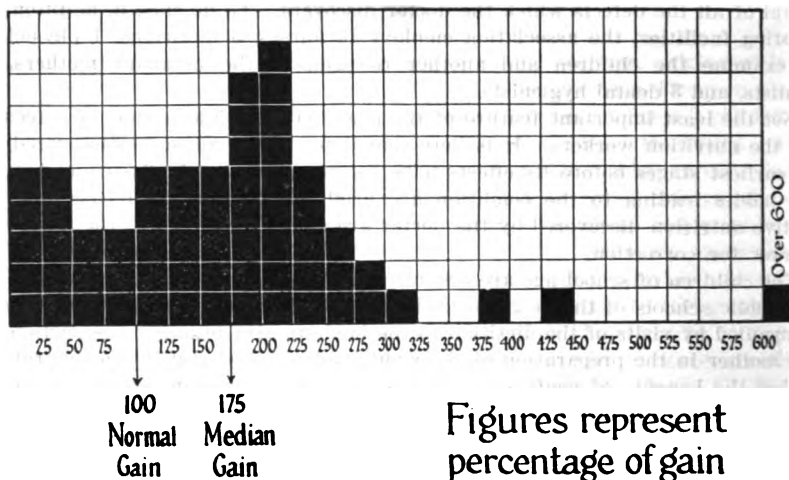
**Results.**—The record of the gains of three groups of children who received intensive work for 16 weeks is now available. While the period covered is too short and the number of children included too small to speak of with any finality, the results are most encouraging. The first two groups were children of school age, the third of preschool age.

In the first group of 62 children none of the children lost weight, 24 per cent gained but failed to make the normal gain, while 76 per cent gained in excess of normal. The accompanying chart (page 32) indicates that the median gain fell at about 175 per cent of the normal. In other words, the median gain was about 75 per cent in excess of the normal. Moreover, the largest number of children gained from 200 to 225 per cent of the normal, while a few made more than four times the normal gain.

CHART 1.

# First Group - 62 Children - 16 Weeks

Each square represents one child

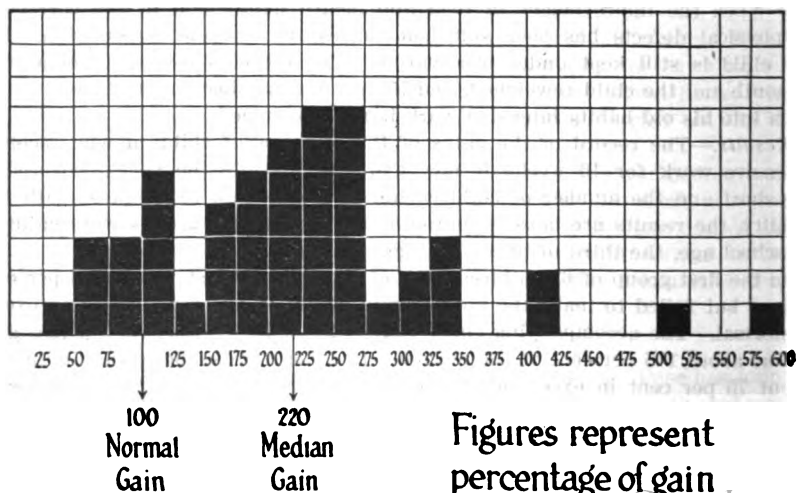


The second group, which was carried at a later period when methods had been more fully developed, made an even better showing. Of this group, consisting of 54 children, none lost weight, 13 per cent gained less than normal, while 87 per cent gained in excess of normal. The median gain for the group fell at 220 per cent of normal, with the greater number falling between the 225 and 275 percentile groups.

CHART 2.

# Second Group - 54 Children - 16 Weeks

Each square represents one child

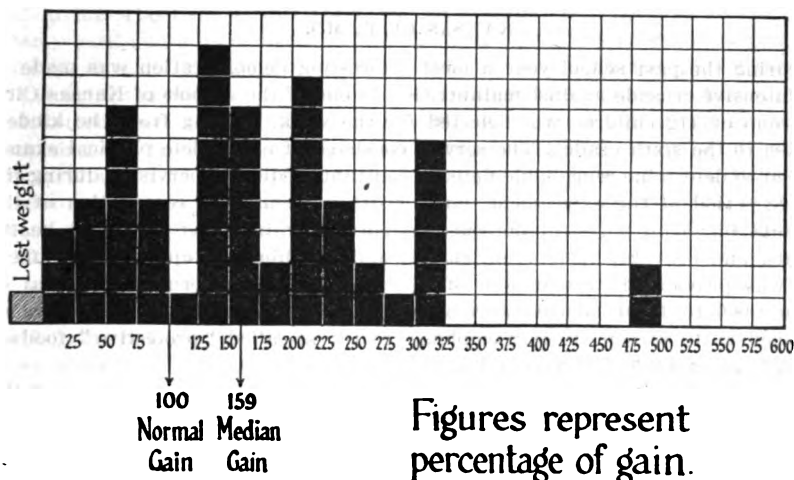


The third group, of 61 children of preschool age, failed to make as good a showing as the other groups because of the difficulties of working with children of this age. The results, however, are far from discouraging. One child lost weight, while 81.1 per cent gained less than normal and 67.2 per cent gained in excess of normal. The median for this group fell at the 159 percentile group.

CHART 3.

## Pre-school - 61 Children - 16 Weeks

Each square represents one child



### NUTRITIONAL EDUCATION IN CLINICS FOR CHILDREN.

With the close medical supervision which is possible in children's clinics excellent opportunity is offered for the clearing up of minor physical defects which retard the child's nutrition. When this is done the balance of the work consists in educational supervision to establish proper food and health habits on the part of both children and parents. The following clinics, all connected with large hospitals, provide such care for their children: Bellevue, Post Graduate, Nursery and Child's, and Mount Sinai. The work is either carried on by personal interview with the child on the part of the physician in charge or through nutrition classes and home visiting. For this purpose Bellevue has a staff consisting of a physician who supervises the work and meets the groups of children, a nurse who assists the doctor at the clinic and who visits the homes, and three volunteers who help take histories and relieve the physician and nurse of many details. At Mount Sinai hospital the physician in charge interviews each child personally.

### TEACHERS COLLEGE—COLUMBIA UNIVERSITY.

With the further development of nutrition classes and other methods of dealing intensively with defective nutrition there is a growing demand for especially trained workers in this field. Teachers College of Columbia University is anticipating this demand by giving its students in home economics field training in the work of nutrition classes and in home visiting. Dr. Mary Swartz Rose, of the school of household arts of the college, with Miss Emma



Winslow, secretary of the home economics committee of the Charity Organization Society, are in charge of this work. Nutrition classes are conducted in a room in a neighborhood near the college. The students are required to take their turn at conducting the nutrition class and in visiting the homes.

#### THE BUREAU OF EDUCATIONAL EXPERIMENTS.

For three years' this bureau has been conducting nutrition work in one of the public schools and during the last year it began the work in an experimental play school which it operates (21, 22). Dr. William R. P. Emerson organized the nutrition work and supervised it for the first years. In addition to nutrition class work supplementary feeding is provided and attention given to the removal of physical defects.

#### KANSAS CITY, MO.

During the past school year a most interesting demonstration was made of an intensive crusade against malnutrition in one of the schools of Kansas City. A group of 112 children was selected for the work, ranging from the kindergarten to the sixth grade. The service consisted of a complete physical examination to determine remediable defects, constant medical supervision during the entire period of the experiment, home visits to secure the cooperation of the parents in curing physical defects and correcting incorrect food and health habits, and biweekly instruction classes and weighings. Supplementary feeding was provided in the middle of the forenoon and afternoon. A total of from 1,000 to 1,200 calories were supplied in these meals and they were so planned as to give particular emphasis to the so-called "protective" foods—milk, eggs, and "leafy" vegetables.

At the end of the period the group showed a gain of 231 per cent of the normal gain. A central group of 109 children, who were similar to those included in the experiment, but who did not receive the service, lost an average of 4 ounces apiece. Fifteen children failed to make the expected gain. It was found that in the case of 14 of these the failure to gain was due either to uncorrected physical defects or illness or lack of cooperation in the home. The other child remained thin, but was apparently in the best of health.

#### THE RÔLE OF SCHOOL FEEDING IN THE MALNUTRITION PROGRAM.

It is obvious that much is accomplished in dealing with undernourished children through school medical and nursing service, the nutrition class, and through personal contact with families. The value of such services has been so well established that the rôle often ascribed to the school lunch will have to be greatly modified. Far from being a panacea for malnutrition, the school lunch has now to be regarded merely as an accessory to a larger social machinery which is better adapted for coping with the various complexities of the malnutrition problem.

But the day is still far distant when cities shall have so perfected their medical, clinical, and other services as to reach every undernourished child. It is conservatively estimated that there are between two and three hundred thousand undernourished children in New York City. When it is considered that the average nutrition class can only care for 50 or 60 children at a time, it can easily be seen that a tremendous expansion is necessary in medical inspection and clinical facilities, and that a considerable readjustment must be made in school schedules before this vast number can be adequately cared for. We shall still have to rely on the school lunch as our best agency for preventing malnutrition by offering a wholesome school lunch to all children who will avail themselves of it.

## WHAT TYPE OF SCHOOL FEEDING IS MOST EFFECTIVE?

There are, as we have seen, various theories as to the portion of the child's nutrition which the school meal should provide. In England, where school feeding is still regarded as practically the only antidote for malnutrition, the undernourished child receives the major part of his nutrition from the school meal, while in America he receives from a fourth to a third of his daily ration in the school lunch. It is clear that we ought not to make the mistake of assuming that the child should receive the greater amount of his nutrition in the school. The emphasis should be placed on checking up home conditions so that the family's food standards will be brought up to normal and educating the child to like and to demand adequate and nourishing food. The quantity provided in the school lunch will, therefore, be a compromise between furnishing a hearty meal and a mere snack to assuage temporarily the pangs of hunger.

The question as to when the meals should be served is still an open one. The theory of the midmorning lunch is that the child who receives an inadequate breakfast or none at all must have a light lunch in the middle of the morning to sustain him through the morning school period. Besides, many contend that by supplying a light lunch at this time the undernourished child can increase the total amount of food taken daily without overtaxing his digestive organs. At best, the midmorning meal, however, is a supplementary meal, to be supplied to children whose undernourishment is critical.

It will doubtless be found best to serve a rather ample lunch at noon if only one meal is to be provided. There is a growing feeling that the noon meal should provide a perfect "balanced" ration; that is, it should contain the proper proportion of the various essentials of the child's diet—protein, carbohydrate, fat, and mineral salts. But if the noon meal is to be perfectly "balanced" and to contain a half or a third of the child's daily ration, as many contend, a radical departure from present methods and traditions is essential. The American school lunch has been built up on the theory that the child is to select his luncheon from various portions of food offered for sale. There is, of course, no assurance that the child will select a perfectly "balanced" meal. We have seen that the "balanced" meal can easily be supplied in cases of special feeding where provision is made for supplying an ideal lunch to small groups without cost. If the prescribed luncheon is to be established, the voluntary pay-as-you-go policy must be superseded. To install such a system will involve serious financial considerations, for patronage will undoubtedly fall off when children find that they are required to take a certain meal or none at all. This, however, may be offset by the advantage which would be gained through scientific feeding of at first a limited group, which would be extended later as the advantages of such a meal were impressed on the children.

But even with an à la carte service it is possible to guide the children to some extent in the selection of a properly "balanced" meal. In some cities a child may not purchase a cracker or candy until he has first selected soup, cocoa, or some other substantial dish. Moreover, if care is used in the selection of recipes each portion can provide a fairly well "balanced" ration, particularly if milk is freely used.

*"Protective" foods.*—The work of McCallum, Osborne, Mendel, and others has demonstrated the importance of milk, eggs, and leafy vegetables because of growth-promoting qualities which they possess and which many other foods rich in carbohydrates, proteins, fat, and mineral salts entirely lack. The school lunch should therefore provide as much of these foods as is practicable. Supplementary feeding which is intended to build up anemic and undernourished chil-

dren should be made up almost entirely of this kind of food. For this reason the custom of serving milk and crackers or cereal and milk is most commendable. The best results, however, will come not from the merely temporary provision of such food but in getting the children in the habit of taking it regularly at home.

#### THE EDUCATIONAL ASPECT.

It is constantly claimed that an important function of the school lunch is to educate the child not only in proper food habits, but also to instill in him a consideration of the interests of his fellows. Here is a fertile field for development in school-feeding work, for little has been done to make the meals really educational, the reason probably being, as we have already indicated, because much of the work up to the present time has been done by private societies which had not facilities for developing this aspect of the work. Experience has shown, however, that children in groups can be taught to eat foods which are good for them and to which they have been unaccustomed at home. The teaching in this instance is not accomplished so much through formal instruction and discipline as through the quiet suggestion of a wholesome meal attractively served.

There remains much to be done, however, in coordinating the school lunch with other departments of the public school, particularly the home economics department, in teaching food values. Not only ought the children to be taught in the classroom the value of the different kinds of foods, but the school lunch ought to serve as a concrete example of the best type of feeding. It might be well in such cases for the teacher to use the menu of the school lunch for that week as a basis for pointing out the value of different types of food in order to enlist the interest of the child in the subject. It is not, however, until the school lunches are operated as an integral part of the educational system and the cooperation of the whole teaching staff of the school enlisted that they can be made really educational.

#### TO WHAT EXTENT OUGHT THE LUNCH SERVICE BE SELF-SUPPORTING?

The best results can be secured if the receipts from the lunch service are applied only to the cost of the food. The child ought at least to pay for the food he consumes. If it is attempted, however, to make the lunch service, particularly in the elementary schools, entirely self-supporting—that is, to cover the cost of labor and administration as well as of food—the best results will not be secured. The prices charged will have to be so high as to keep from the service many children who are most in need of it. Moreover, there is good reason for charging the cost of administering the lunch and the labor to education, calling upon the community to meet such expenses. It has been clearly shown that the lunches can be made educational, and if they perform an educational service the community and not the individual child should be made to bear the expense of this service.

#### THE PROVISION OF FREE MEALS.

The principle that every meal must be paid for is a sound one and ought not to be departed from. To supply free meals indiscriminately is bad for the children and for the character of the service as well. Children who can not afford to purchase their own meals should be provided with such meals either by private charitable agencies or through funds appropriated by the city government specially for that purpose. The provision of free meals for the child should be regarded only as an extremely temporary expedient which should be

followed up by close investigation of the home. If such investigation indicates the family is too poor to supply adequate food, the provision of relief should be made directly to the family and not to the child. All that is necessary after all is to insure that no child is deprived of the school meal simply because of the poverty of his parents, but the best social practice indicates that the relief should be made to the family as a unit and not to the child.

#### THE PUBLIC CONTROL OF SCHOOL FEEDING.

Experience both in Europe and America indicates that school feeding, to be done efficiently, must be placed in the hands of the local educational authorities. We have seen that while school feeding usually has been initiated through private effort, it has almost universally been transferred to public control. It is significant that in all the cities in America where school feeding has been developed at all extensively the work is now done entirely by the board of education. New York, Chicago, and Philadelphia have intrusted this work entirely to the department of education, while Los Angeles, Louisville, and other cities also maintain an extensive lunch service under public control.

The private operation of school lunches fails to achieve the best results because private committees usually lack sufficient funds to extend and maintain the service adequately. Moreover, it is difficult for a private organization to receive the cooperation of the teaching staff, essential to making the school lunches thoroughly educational. Indeed, the private control of school lunches is justified only as an experiment to demonstrate that such work is needed and to discover what are the best methods of organization and administration. Since experimentation of this kind has already been done, it is folly for any community to repeat such experiments.

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STANDARDS IN GRADUATE WORK  
IN EDUCATION

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LEONARD V. KOOS

Professor of Secondary Education, University of Minnesota



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
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III



## LETTER OF TRANSMITTAL.

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DEPARTMENT OF THE INTERIOR,  
BUREAU OF EDUCATION,  
*Washington, January 19, 1922.*

SIR: The standards and educational practices of all higher institutions are scrutinized now as never before in our history. For the most part these examinations relate chiefly to undergraduate and professional schools and colleges. It is, however, important that the graduate divisions in our great universities should lead the way with superior requirements and standards for graduate work. In this field the committee on standards of the Society of College Teachers of Education has, under the direction of Prof. Leonard V. Koos, of the University of Minnesota, done some pioneer work by conducting an investigation of the graduate standards and practices in college departments of education. The study reveals valuable information which should be brought to the attention of the higher institutions in this country. I wish, therefore, cordially to recommend the publication of the manuscript as a bulletin of the Bureau of Education.

Respectfully submitted.

JNO. J. TIGERT,  
*Commissioner.*

The SECRETARY OF THE INTERIOR.

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# STANDARDS IN GRADUATE WORK IN EDUCATION.

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## SCOPE AND METHOD OF THE STUDY.

There is reported here a digest of responses to a rather extended inquiry concerning standards in graduate work in education. The lines of investigation were drawn largely from two chief sources, (1) the report of a committee of the American Association of University Professors, and (2) responses of heads of schools and colleges of education to a letter asking for a statement of what seem to them to be the more pressing problems in the standardization of graduate work in the field of education. The former appeared in the January-February (1919) number of the bulletin of the association. It was concerned solely with the doctorate in philosophy, not with the master's degree, and gave consideration to problems of standardization of this degree for the entire range of university work to which it should apply, not merely to the field of education, as does the present study. Through analogy this report supplied important lines of investigation for the study here undertaken. From the responses of the deans and directors of schools and colleges of education were drawn the problems more peculiar to the field under consideration. No item of practice was investigated which was without recognition in the report referred to or in the responses of the deans and directors of whom preliminary inquiry had been made.

The questionnaire framed on the basis of these sources was sent to the heads of departments or schools of education in approximately 90 higher institutions in many parts of the country. This number included all the State universities and other State institutions which might be presumed to be giving graduate training in education, to all the larger non-State higher institutions known as places where graduate training in education is obtainable, besides a number of smaller colleges and universities randomly selected.<sup>1</sup>

In all, 61 of the schools of which inquiry had been made sent answers of one sort or another, some of them stating merely that they gave little or no graduate training, others by returning the questionnaire properly filled out. Most of the responses of the former type came from the randomly selected smaller institutions. Up to the time of completion of the work of tabulation, usable responses had been submitted by representatives of 42 departments, schools, or colleges of education. The blank was in most cases filled out by or under the immediate direction of the head, dean, or director, but in a few instances by some other person informed as to practices and authorized to express the opinions called for. Of these 42 institutions, 17 grant the master's degree only, the remaining 25 granting both the master's and the doctor's degree.

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<sup>1</sup> The list from which were drawn the names of the heads of departments and deans to whom questionnaires were sent is that appearing on pages 95-109 of the 1918-19 Educational Directory of the U. S. Bureau of Education, appearing as Bu. of Educ. Bul., 1918, No. 34.



The names of the institutions represented in the study are as follows: University of Arizona, University of Arkansas, University of California, University of Chicago, Clark University, Columbia University (Teachers College), Cornell University, University of Florida, George Peabody College for Teachers, George Washington University, University of Georgia, Harvard University, University of Illinois, Iowa State College, State University of Iowa, Johns Hopkins University, University of Kansas, Louisiana State University, University of Maine, University of Michigan, University of Minnesota, University of Mississippi, University of Missouri, University of North Carolina, University of North Dakota, Northwestern University, Ohio Wesleyan University, University of Oregon, Pennsylvania State College, University of Pennsylvania, University of Pittsburgh, University of South Dakota, Stanford University, Syracuse University, University of Tennessee, University of Texas, University of Utah, University of Vermont, University of Washington, West Virginia University, University of Wisconsin, and Yale University.

Examination of the list will show that there is a very satisfactory representation of State institutions and of the larger nonpublic universities. In fact, very few institutions important in graduate training in education are absent from the list. But the representation of departments of education in smaller private institutions is rather meager. Their absence must be largely explained by the fact that they undertake little in the way of graduate training. This explanation has the support of a number of answers to this effect from the heads of their departments of education. It is also supported by the fact that most of them failed to respond even to a second request. These facts justify assurance that the study here presented is to be regarded as a fairly complete survey by questionnaire of the practices in and opinions as to graduate training in education in the United States during the school year covered by the study, 1919-20.

For the most part the answers of those who returned the questionnaires were sufficiently full and satisfactory. This was especially true of the reports on *practice*. There was some tendency to fail to respond to the requests for *opinions* as to appropriate practices, except when the individual who filled out the questionnaire was moved to take exception to current practices. As the discovery of this disagreement, with practice was after all the thing sought for in the request for opinion, this partial failure to respond to the requests for opinion affects only to a small extent, if at all, the achievement of the purpose of the investigation. Because of this purpose in seeking opinions, no frequent reference is made to them in the report unless they tend to deviate from the trend of practice.

It is not presumed to be the function of this report to do more than to present the facts of practice and opinion. The writer, therefore, restricts himself to their bare and brief recital.<sup>4</sup>

## I. ADMISSION AND PREREQUISITES.

### SECONDARY-SCHOOL PREPARATION.

*Investigation of high-school preparation.*—Eighteen institutions state without qualification that they investigate the high-school preparation of graduate students. Twelve others answer to the effect that it is sometimes investigated. Illustrations of statements coming under this head are: "Yes; unless accredited

<sup>4</sup> The committee on standards of the Society of College Teachers of Education, for whom the study here reported has been made, will undertake the task of recommendation of appropriate practices on the basis of the findings presented.

high school"; "Yes; if college is not accredited." Only 12 of the entire group of 42 institutions answer "No" to the question concerning the investigation of high-school preparation.

*Amount of high-school preparation required.*—Few of the institutions will accept anything less than four years of high-school work. Few of them accept less than 15 units. The exceptions are the small number that will accept 14 or 14½ units, or insist upon 15½ or 16. Four institutions in one way or another make it clear that they do not insist upon the full four years for the completion of the necessary units, seeming thereby to encourage economy of time for the more capable pupils.

#### COLLEGE PREPARATION.

*The bachelor's degree as a prerequisite to admission.*—Almost all institutions insist upon the bachelor's degree based upon four years of work as a prerequisite to admission to graduate work. Three of the entire group of 42 institutions are ready to accept a bachelor's degree secured in less than the traditional four years, thereby seeming to encourage economy of time for more capable students.

*Specific requirements other than education.*—The next point of inquiry was the extent to which the institutions prescribed specific subjects of study which the student should offer in order to be admitted to graduate work. Of the entire group of 42 institutions, 17 make no specific prescriptions; 20 name prerequisites. The numbers of these subject prescriptions and their names appear in Tables 1 and 2. The former of these tables shows that the number of prescriptions varies widely. The total amount of credit in these prescriptions is not presented in the tables, but it may be said that it also varies widely. In 14 instances of amounts of credit where these could be computed from the answers, they ranged from 3 to 72 semester hours.<sup>1</sup> There are 14 different practices in these 14 cases, showing little or no tendency to standardization of practice.

TABLE 1.—Number of specific prerequisites other than education.

Number of prerequisites.	Number of institutions.
0-----	17
1-----	5
2-----	3
3-----	5
4-----	2
5-----	1
6-----	3
9-----	1
Miscellaneous answers-----	3
No answer-----	2
Total number of institutions-----	42

The second of these two tables shows the more common prerequisites in the order of their frequency of appearance. A few of the institutions require the presentation by the candidate of majors or minors without prescribing in what subjects these majors and minors shall be.

*Investigation of the college work antecedent to graduate training.*—There is a great variety of practice as to who investigates this work. In fact, there are 17 different practices reported by the 42 institutions concerned: 9 institu-

<sup>1</sup> Because the semester hour is the unit more commonly used, as far as possible other units of credit have been reduced to semester hours. Where this was not possible, the answers were omitted.

tions indicate that the dean of the graduate department performs this function; 7 report that it is the work of the graduate committee; 5 that it is done by the head of the department or school of education. Other practices reported with less frequency are university registrar or examiner, the committee on admissions, the committee on relations with other institutions, etc.

TABLE 2.—Names of specific prerequisites other than education, and their frequency of appearance.

Prerequisites.	Number of institutions.
Psychology.....	13
A laboratory science.....	11
Social studies.....	10
English.....	8
Foreign languages.....	7
Philosophy.....	5
Hygiene and sanitation.....	2
Mathematics or logic.....	2
Public speaking.....	1
Physical education or military training.....	1

Practice in this regard may be summed up in another way. A committee has a functional relationship to this investigation in 19 institutions; the dean or head of the graduate school or department in 13 instances; the department of education in 12 instances; and the registrar in 6. There are sometimes two or three of these relationships in one institution.

Of the 42 institutions, 30 report that they use lists of approved higher institutions in evaluating the student's work antecedent to his graduate training. Nine use no such lists.

The more common lists used in this evaluation of college work are the United States Bureau of Education list, lists prepared by the State universities, and the North Central Association list. A number of other lists are named in a few instances, e. g., the Association of American Universities, the Carnegie Foundation, Babcock's, Southern Association, etc. A number of institutions speak of "our own list" or "experience."

*Procedure when an institution is not on an approved list.*—Some of the wide variation of practice reported in this connection may be cited for illustration: Referring the question of acceptance to the State university in the State in which the college is located for its evaluation of the institution concerned (7); permitting the student to register, subject to the requirement that he show ability (6); considering carefully the individual (3); inspection by a member of the faculty if within the State (3); "our experience" (3). A few of those who responded to the question made comment somewhat as follows: "We should have a national list (of approved higher institutions) made by some recognized authority." These comments and the wide variety of practices in the matter of approving graduate students when coming from institutions on no approved list show a need of standardization of higher institutions over wider than State areas.

#### PREREQUISITES IN EDUCATION.

*Special requirements in education.*—Twenty institutions prescribe no specific courses in education preliminary to admission to graduate courses in education. Five make no answer to the question concerning these prerequisites. Seventeen report one or more. The more common subjects reported are shown in Table 3. Table 4 shows the number of courses designated as prerequisites.

TABLE 3.—*Specific prerequisites in education.*

Subjects.	Number of institutions.
Educational psychology.....	10
History of education.....	8
Principles of education.....	7
General methods.....	2
Observation and practice.....	2
Theory and practice.....	1
Administration.....	1
Secondary education.....	1

TABLE 4.—*Number of specific prerequisites in education.*

Number of specific prerequisites.	Number of institutions.
1.....	5
2.....	5
3.....	2
5.....	3
6.....	1
"One year of teaching".....	1
No prerequisites or no answers.....	25
Total number of institutions.....	42

*Amounts of credit in specific prescriptions.*—When these specified requirements are reduced to semester hours, they vary no less widely than do the subjects or numbers of courses. The totals range from 3 to 32, the most common practice, reported by six institutions, being 12 hours.

The opinions favor a larger amount of undergraduate work in education than does practice. The range is from 5 to 32 hours, with the more common opinion being again 12 hours. Reports from 11 institutions recommend increases of the amounts required in this field, while the report from no institution recommends the reduction of the requirement in operation.

*Experience as a substitute for prerequisites in education.*—Of the 33 institutions which have prerequisites in education specified or unspecified, 19 report that they do not accept experience in lieu of prerequisites in education, 15 that they do. Of the 42 institutions, 9 have no such prerequisites. Several of the institutions in which experience is accepted in lieu of the prerequisites make such qualifying statements as follow: "For the introductory course only"; "To a limited degree"; "For practice teaching only"; "Sometimes"; etc.

Several of those who answer the questionnaire state emphatically that "experience will not supply ideas," thereby indicating that they very much disapprove of the practice of accepting it in lieu of other prerequisites.

#### DISTINCTION BETWEEN ADMISSION TO GRADUATE WORK AND ADMISSION TO CANDIDACY FOR ADVANCED DEGREES.

*For the master's degree.*—Approximately two-thirds of the persons making response to the questionnaire report that a distinction is made between admission to graduate work and admission to candidacy for the master's degree; while about one-third state that no such distinction is made. A number of those who report a practice making no such distinction emphasize the desirability of doing so.

*The distinctions made.*—An approximate fourth of the institutions make the period of residence the distinction between admitting to graduate work and admitting to candidacy for a degree. The remainder either answer "No" or

fail to respond to this question. Thus, in most institutions there is no distinction in terms of preliminary residence. *Quality of work* is made a basis of distinction between admission to graduate work and admission to candidacy in somewhat less than half the schools. Most of the questionnaires are silent in the matter of other bases for distinction between admission to graduate work and admission to candidacy for the master's degree; they have no bases other than those already named.

*For the doctor's degree.*—Of the 25 institutions granting the doctor's degree, 20 report that they make some distinction between admission to graduate work and admission to candidacy for this degree. Three report that there is no such distinction.

*The distinctions made.*—Eleven report that there is a period of residence preliminary to admission to candidacy. Five report that there is not. Most of the institutions are following the practice of insisting upon quality of work as a basis for admission to candidacy. A few of those who report volunteer information as to the grade required, as "B" or some other measure of scholarship. The most common other basis of distinction between admission to graduate work and to candidacy for the doctor's degree is the preliminary examination. Among other bases named are the thesis subject and the foreign-language requirement.

#### THE ABILITY OF STUDENTS WHO RECEIVE THE HIGHER DEGREE.

*The master's degree.*—In answer to the question as to whether or not the master's degree is differentiated rigidly from the bachelor's degree as not attainable by persons of mere average ability who give the necessary time, 10 say "No," 27 "Yes," while 5 fail to answer or give answers which are not usable. Opinion favors such a differentiation more strongly than practice.

*Doctor's degree.*—As may be expected, the reports indicate almost a unanimity of insistence upon rigid differentiation of the doctor's degree from the bachelor's as not attainable by persons of mere average ability who give the necessary time. Twenty-four indicate that they do so differentiate; the remaining 1 of the 25 institutions granting the doctor's degree reports that it does not. Opinion is in no disagreement with these reports of the trend of practice. The candidate is and should be, according to both practice and opinion, a person of more than average ability.

## II. RESIDENCE REQUIREMENTS.

### MASTER'S DEGREE.

*Minimum period of residence during the academic year.*—The almost uniform practice is to require a full year of residence if the student attends during the regular academic year from September to June. Two schools report a minimum period of residence of two years.

*Obtaining the degree by summer residence only.*—Thirty-six institutions report that this degree may be obtained by summer residence only; five that it may not.

*Minimum period of residence during summer sessions.*—The facts as to the minimum number of weeks of residence required if the student attends only during the summer sessions are reported in Table 5. We find in this table a marked tendency to accept a shorter period of residence during the summer sessions than during the academic year.

TABLE 5.—*Minimum number of weeks of residence for master's degree when candidates attend summer sessions only.*

Number of weeks.	Number of institutions.
15.....	1
18.....	8
24.....	11
27.....	1
30.....	4
32.....	4
36.....	4
Degree may not be obtained by summer residence.....	5
No answer or answer not usable.....	4
Total number of institutions.....	42

*What is required in lieu of the difference between minima of all-year and summer residence.*—In 16 institutions from which we have answers as to what is required in lieu of the difference between summer residence and residence during the academic year, 9 report that nothing is required, while 7 report in some such terms as follows: "Supervised study or projected work in absentia"; "the equivalent of a semester's work in absentia"; "the maturity of the candidate and his ability to do intensive work"; "undetermined as yet."

Opinions as to what should be done in lieu of the difference noted are more in the direction of (1) insisting upon some sort of requirement; or (2) equalizing the periods of residence by requiring longer attendance in summer sessions.

*Correspondence study as meeting the requirements for the master's degree.*—Of the 42 institutions, 33 report that correspondence work is not accepted in lieu of residence requirements. Seven report that it is so accepted. Opinion is somewhat more inclined than is practice to accept correspondence study as a substitute for residence, but it would insist that the work be "well organized," that it be accepted only to a "limited extent," or "in very small amounts."

*Other kinds of work accepted as a substitute for residence.*—The majority of institutions refuse to accept any other kind of work as a substitute for residence. Of the 16 institutions which do accept such work, the following kinds are accepted: Field or research work (5 institutions), projected work in absentia (4), extension classes (4), etc.

*The effect upon the period of residence when the student does not meet the prerequisites in education.*—Of those institutions from which answers have come concerning the effect upon residence of not having met the prerequisites in education, 10 report definitely that it extends the period of residence, and 4 that it may lengthen it, but that it does not always work in this way. Six of the institutions having prerequisites answer that the absence of the prerequisites in the training of the candidate does not result in a longer period of residence. If to these are added those already reported as having no prerequisites and also the portion of the 9 not answering the question in which the failure to present prerequisites may be presumed to have no effect, we are safe in concluding that in a majority of institutions the fact of having had no preliminary work in education does not tend toward extension of the length of residence required for the degree under consideration.

Opinion is more favorable than is practice to an extension of the period of residence if the prerequisites have not been met.

#### DOCTOR'S DEGREE.

*Minimum period of residence during academic year without previous graduate training.*—Of the 25 institutions reporting that they grant the doctor's degree, 19 report that they hold to a three-year requirement for candidates

without previous graduate training, and 8 each report one-year and two-year requirements.

*Obtaining the degree by summer residence only.*—In 19 institutions it is impossible for a candidate to receive the doctor's degree by summer residence only. In but 4 institutions may this be accomplished; 1 reports "possibly," while in 2 others there seems to be no rule.

*Minimum period of residence during summer session.*—Of the 4 institutions from which reports indicate that they accept summer residence as satisfying all residence requirements, 1 reports a minimum requirement of 24 to 30 weeks; 2 a minimum total of 8 years of residence; and one 60 weeks.

*The minimum period of residence when the candidate has had graduate training in another institution.*—The universal requirement here is a one-year minimum.

*Correspondence work in lieu of residence requirements.*—Practice is emphatically opposed to acceptance of correspondence work as a substitute for residence requirements for the doctor's degree, reports from 22 institutions stating that it is not accepted. Opinion is to a slight degree more favorably inclined toward granting such credit, but it would insist that, if it is accepted, it be field research in small amount and under careful supervision.

*Other kinds of work as substitutes for residence.*—Of the 25 institutions granting the doctor's degree, 11 report that no other kinds of work are accepted as substitutes for residence. Another group of the same number of institutions report that research work is sometimes accepted, although some specify that it must be a type of research work requiring absence.

*Effect upon period of residence of not meeting the prerequisites in education.*—Reports from 5 institutions indicate that the period of residence is extended by the failure to present the prerequisites in education upon entrance to graduate study. Four institutions report that this does not extend the period of residence, three of these stating that there is enough time in the three years to make up the prerequisites. When to these are added the 9 others having no prerequisites, it is apparent that the predominant practice in this regard results in no extension of the period of residence.

### III. CREDIT REQUIREMENTS.

#### MASTER'S DEGREE.

Table 6 presents the number of semester hours of credit required for the master's degree. The amount of credit required may be seen to vary widely and seems to be considerably influenced by the value placed upon the thesis, one of the almost universal requirements for the master's degree. The table also indicates that a few institutions do not specify graduate requirements in terms of formal credits.

TABLE 6.—Semester hours of credit required for the master's degree.

Number of semester hours.	Number of institutions.
20.....	1
24.....	5
26.....	1
28.....	1
30.....	8
32.....	8
35.....	1

Number of semester hours.	Number of institutions.
9 to 12 and thesis.....	1
18 and thesis.....	1
24 and thesis.....	15
30 and thesis.....	18
32 and thesis.....	1
Requirement not stated in units of credit.....	4
No answer or answer not usable.....	7
Total number of institutions.....	42

## DOCTOR'S DEGREE.

Not many institutions specify requirements for the doctor's degree in terms of credit hours. Six in which requirements are so stated report 48 hours (1 institution), 54 hours (1), 60 hours (2), 64 hours (1), 90 hours (1). One institution each reports the following practices: "24 and the thesis," "30 and the thesis," and "60 and the thesis." It is the more common practice for the institutions granting the doctor's degree to state that the requirements for this degree are not stated in units or hours. A few of those who volunteer an opinion state that the character and quality of the work and the dissertation should be the determining factors, rather than the amount of credit.

## IV. THE DISTRIBUTION OF WORK.

## ORGANIZATION OF THE WORK IN EDUCATION.

An item of some significance in a study of the requirements for higher degrees in education is the practice in the matter of organization of work in the field. Therefore, one point of inquiry was whether or not the work in education is organized by departments. Thirteen copies of the questionnaire report that education is so organized. Twice this number make a negative answer.

The departments more commonly named by those who report having an organization of the former sort are as follows: Educational psychology (10 institutions), administration (7), history of education (6), secondary education (5), vocational or industrial education (5), rural education (5), health education or educational hygiene (4), elementary education (4), and a scattering of a wide array of departments, among them philosophy of education, educational sociology, normal-school education, religious education, kindergarten education, agricultural education, art education, etc.

*Lines of graduate specialization.*—Another point of inquiry that may be seen to be somewhat related to the problem of organization is the number and kinds of lines of graduate specialization open to students. The facts concerning this are presented in Tables 7 and 8.

## MASTER'S DEGREE.

*The number of majors and minors required.*—Table 9 shows the practices as to the number of major and minor subjects required for the master's degree in the institutions represented by those who answered the questionnaire. There is seen to be a wide variety of practice in this regard.

<sup>1</sup> One of these reports "24 and thesis or its equivalent."

<sup>2</sup> One of these reports "28 and thesis or its equivalent."



TABLE 7.—*Lines of graduate specialization within the field of education.*

Line of specialization.	Number of institutions.
Administration.....	19
Educational psychology.....	17
History of education.....	16
Secondary education.....	12
Elementary education.....	7
Vocational education.....	6
"Education" <sup>1</sup> .....	5
Supervision.....	5
Tests and measurements.....	5
Experimental education.....	4
Theory.....	4
Philosophy of education.....	2
Educational sociology.....	2
Rural education.....	2
Religious education.....	2
Principles of education.....	2
Methods.....	2
Normal school education.....	1
Higher education.....	1
Primary education.....	1
Kindergarten education.....	1
Play and recreation.....	1
Practical arts education.....	1
Others.....	9

<sup>1</sup> It is not unlikely that those who gave this answer misunderstood the question.

TABLE 8.—*Number of different lines of graduate specialization within the field of education.*

Number of lines of specialization.	Number of institutions.
1.....	8
2.....	4
3.....	7
4.....	4
5.....	5
6.....	1
8.....	5
11.....	1
No answer.....	7
Total number of institutions.....	42

TABLE 9.—*Number of major and minor subjects required for the master's degree.*

Number of majors and minors.	Number of institutions.
One major only.....	12
One major and one minor.....	9
One major and one or two minors.....	4
One major and two minors.....	1
One or two majors and two minors.....	1
"Varies".....	1
Work not arranged by majors and minors.....	2
No answer or answer not usable.....	12
Total number of institutions.....	42

When we come to study the amounts of credit required in these majors and minors we find an even greater variety of practice. For 29 institutions making responses with any degree of definiteness there are 25 different practices. There is thus little or no standardization of practice in this regard. As far as possible, a comparative study was made of the amounts of credit required in the major when no minor is required and when minors are required. No marked difference was found, except that a few of the institutions requiring a major only require a considerably larger amount of credit in that major. In

cases where no minor is required, the majors range from 10 to 36 hours, with very few above 20. Where minors are required, the majors range from 10 to 21 hours. The number of institutions whose responses could be used for the comparison was too small to give findings of much significance.

*Departments from which majors and minors are accepted.*—The following are the more common departments in education from which majors are accepted: Administration, educational psychology, history of education, secondary education, elementary education, and rural education. Other departments are reported by one or two institutions each.

The situation as to departments in which minors are accepted differs in no essential respect from what has been reported for majors.

*Specialization within the field of education.*—Almost three-fourths of those who report, i. e., 30 of the total of 42, signify that specialization within the field of education, e. g., in educational psychology, administration, etc., is *encouraged*; 4 report that it is not, while 3 say that it is "permitted" or "not discouraged."

There is not as marked a tendency to *require* specialization within the field of education, as only 15 indicate unequivocally that this practice is followed, while 19 indicate that it is not.

#### DOCTOR'S DEGREE.

*Number of majors and minors.*—The outstanding practice is to require a major and two minors for the doctor's degree, as 10 of the 25 institutions giving this degree make this the requirement. Other practices followed in three of four institutions each are: One major and one minor; one major and one or two minors; one major only.

*Departments from which majors and minors are accepted.*—In those institutions in which education is organized by departments, the following departments are named as those in which majors are more commonly accepted: Educational psychology, administration, secondary education, elementary education, rural education, and history of education. The following are among the departments which come in for occasional mention: Philosophy of education, health education, primary education, kindergarten education, educational sociology, vocational education, religious education, etc. The facts as to departments from which minors are accepted are nowise different from those just presented for majors.

*Restrictions as to distribution of majors and minors.*—Of the group of 25 institutions, 7 granting the doctor's degree in education state that there are no restrictions as to the distribution of majors and minors. Typical statements of those who place restrictions are: "Must take one-half or two-thirds of work in philosophy, psychology, and social lines"; "major and one minor must be in related fields"; "the distribution of the minors is at the discretion of the education faculty"; "one minor must be outside the main field, one may be inside." Most of the restrictions are in the direction of making for the unity of the fields covered by the student during his graduate training.

*Specialization within the field of education.*—Of the group of 25 institutions, 17 granting the doctor's degree in education report that specialization within the field of education is encouraged. Two additional institutions say that specialization is restricted to the research of the student. Two reply that specialization is not encouraged. Eleven of the reports indicate that specialization is *required*; six, that it is not required, the remainder making no answer.

As a whole, specialization is more frequently favored both by practice and opinion for the doctor's degree than for the master's.

## AMOUNT OF WORK THAT MAY BE CARRIED.

*The maximum amount of credit that may be earned in any one semester or quarter.*—The maximum amount of credit in number of credit hours which may be earned in any quarter or semester by graduate students ranges from 12 to 20. The more common practices followed by 9 and 8 institutions, respectively, are 12 and 18 hours. Occasionally an institution allows a student to carry as much as 19 or 20 hours, but it is more common to find the practice less than 18 hours. The value of these figures in the determination of the trend of practice is to some extent discounted by the fact that some institutions make the thesis a requirement over and above the maximum of course work, the number of these cases not being exactly determinable from the answers given. In most instances, however, the work on the thesis is included as a part of the number of hours the student is permitted to carry.

Unfortunately, also, the question of the amount of work that may be carried by students during summer sessions was not raised. This question deserves some consideration in any attempt to standardize graduate work. As those acquainted with practices in summer schools are aware, the amount of work that may be carried by students in attendance upon them often exceeds that which may be carried during the sessions of the regular academic year.

## V. ADMINISTRATION OF COURSES IN EDUCATION.

## NUMBERS OF COURSES OF THE DIFFERENT GRADES.

*Number of strictly graduate courses.*—The numbers of strictly graduate courses reported by these schools and departments of education are shown in Table 10. For those making usable responses, these numbers may be seen to range from none—the most common practice—to 20, with a scattered distribution of responses between these extremes. When these numbers are tabulated for the 25 schools granting the doctor's degree, the range may be seen to be just as wide, but with fewer distributed to the smaller numbers. Those schools having the smaller numbers are appropriately those which limit themselves to granting the master's degree. However, it may be said that there are a number of schools undertaking to grant the doctor's degree which have a meager offering of strictly graduate courses.

TABLE 10.—*Number of strictly graduate courses offered.*

Number of courses.	Number of institutions (of the total of 42).	Number of institutions granting master's degree only.	Number of institutions granting both master's and doctor's degrees.
0.....	8	7	1
1.....	4	3	1
2.....	3	2	1
3.....	1	1	.....
4.....	2	1	1
5.....	3	1	2
6.....	2	.....	2
7.....	1	.....	1
8.....	4	.....	4
9.....	1	.....	1
14.....	1	.....	1
15.....	2	.....	2
20.....	1	.....	1
No answer or answer not usable.....	9	2	7
Total number of institutions.....	42	17	25

The number of courses open to both graduates and undergraduates is shown in Table 11. For purposes of comparison of the institutions granting both degrees and those granting only the master's degree, the numbers of courses have been separately tabulated.

It was found that in 8 schools no courses are open to undergraduates only. The conclusion that may be drawn is that there is no undergraduate course in these institutions to which graduate students are not admitted for credit.

The numbers of both (1) strictly graduate and (2) graduate and undergraduate courses is presented in Table 12, with the same effort at distinction between the institutions granting both the degrees and those granting the master's degree only.

*The distinctions between strictly graduate and strictly undergraduate courses.*—As 8 institutions of the entire group of 42 report that they have no strictly graduate courses, these made no response to the question concerning such distinctions. Three additional institutions report that no distinctions are made between these two grades of courses, while five more fail to answer or make answers not pertinent. The trend of distinction in the 24 institutions whose representatives specify one or more distinctions may be characterized by quotation: "More research in graduate courses"; "more seminar work"; "a more critical type of work"; "more largely independent work and individual instruction"; "more outside reading"; "the difficulty and scope of material and degree of advancement"; etc. The more common distinctions are the first two named.

TABLE 11.—*Number of courses offered which are open to both graduates and undergraduates.*

Number of courses.	Number of institutions granting master's degree only.	Number of institutions granting both master's and doctor's degrees.
0.....	1	.....
3.....	2	.....
4.....	1	.....
5.....	.....	2
6.....	2	2
8.....	1	1
9.....	2	.....
10.....	1	1
11.....	.....	1
13.....	1	1
14.....	.....	1
15.....	1	1
17.....	1	1
19.....	1	.....
20.....	1	.....
32.....	.....	1
35.....	.....	1
40.....	.....	1
45.....	.....	1
85.....	.....	1
93.....	.....	1
No answer or answer not usable.....	2	8
Total number of institutions.....	17	25

TABLE 12.—*Total number of strictly graduate courses and courses open to both graduates and undergraduates (i. e., the total offering to graduate students).*

Number of courses.	Number of institutions granting master's degree only.	Number of institutions granting both master's and doctor's degrees.
3.....	1	.....
4.....	1	.....
5.....	2	1
6.....	2	1
10.....	1	.....
11.....	1	1
12.....	1	.....
14.....	.....	1
15.....	2	1
18.....	1	1
19.....	.....	1
20.....	.....	3
23.....	1	1
22.....	.....	1
40.....	.....	1
46.....	.....	1
55.....	.....	1
60.....	.....	1
No answer or answer not usable.....	4	0
Total number of institutions.....	17	25

*Distinctions in courses open to both graduate and undergraduate students.*—The distinctions in requirements between the two groups of students in courses which are open to both graduates and undergraduates are, in the order of frequency of mention, as follows: Additional work required of graduates (9 institutions); more research (7); more reports (6); higher quality expected (6); greater amount of written work (5); wider reading (4). The reports from some institutions give as many as two or three of these distinctions. The answers from 11 institutions indicate that no distinctions are made in these courses between graduate and undergraduate students.

*The proportion of courses open to both graduates and undergraduates that may be taken by candidates for the master's degree.*—Practically half the reports from the institutions indicate that no restrictions are placed upon the proportion of courses open to both graduates and undergraduates which a candidate may offer for the master's degree. If to these are added the 8 institutions giving no strictly graduate courses in education, we have almost three-fourths of the entire group of 42 institutions not insisting upon any strictly graduate courses. Ten institutions have such restrictions. Five of these report that one-half of the student's work must be in strictly graduate courses; two, all of the work; and three others specify certain strictly graduate courses in the requirement for the degree.

*The proportion of courses open to both graduate and undergraduate students which may be taken by the candidate for the doctor's degree.*—Of the 25 institutions granting the doctor's degree, 12 report no such restriction as is referred to here. Only 4 of these institutions insist upon a definite amount, 1 of them asking for one-third, 1 for one-half, and 2 for all work in strictly graduate courses.

*Size of classes to which graduate students are admitted.*—A relatively small proportion of the institutions place limits on the size of classes to which graduate students are admitted. Thirty-four institutions have no such restrictions. Five in which there are such restrictions report maximum graduate classes of 8-10,

8-20, 15, 25. 30. It should be stated, however, that a large proportion having no such restrictions point out that in their institutions there is no need for a limit, since the number of graduate students is small in any event.

Nor is there a notable tendency to place limits on the size of such classes in *summer sessions*. Here opinion is more definitely formed, inasmuch as a larger proportion than follow such a practice recommend a limit for classes in education for summer sessions. Among the voluntary statements touching this recommendation are the following: "Especially necessary in summer," "a great abuse here in some famous summer schools."

## VI. THESIS.

### MASTER'S DEGREE.

*The thesis as a requirement.*—Almost all schools report the thesis as a requirement for the master's degree. Three institutions respond as follows: "Alternative with the seminary"; "provided, but may be substituted for"; and "may be excused." In only 3 additional schools is there no requirement of a thesis.

*Amount of credit for the master's thesis.*—There is a great variety of practice in this connection. Five institutions which require a thesis allow no credit for it, insisting that it is a task imposed "over and above courses." From this practice the amount ranges up to 20 semester hours, with no outstanding modal practice. More commonly than otherwise the credit is stated in terms of lower and upper limits, as 2-4, 4-8, 4-12. The median amount is a bit under five hours.

*Publication of the master's thesis.*—Only one institution insists upon the publication of the master's thesis. The remaining 38 answering the question report that publication is not required.

*The time of completion of the master's thesis.*—In every case but one the time for the completion of the thesis is indicated as before the examination.

### DOCTOR'S THESIS.

*The thesis as a requirement.*—It is a universal practice of those institutions granting the doctor's degree to require a thesis.

*The amount of credit for the thesis.*—From what has been said above concerning the tendency of institutions not to state requirements for the doctor's degree in terms of credit hours, we should be led to anticipate that not many institutions specify the amount of credit which is allowed for the doctor's thesis. The answers bear out this expectation. Seven of those who report state that no credit is allowed, some of them indicating that it is required "over and above courses." Five institutions indicate that a year (3), two years (1), or one-half of all the time (1) is assigned to the work on the thesis.

*Publication.*—Almost all the institutions insist upon the publication of the doctor's thesis, only three stating that publication is not required. One indicates that publication is "urged." The publication is usually in full.

## VII. FOREIGN LANGUAGE REQUIREMENT.

### MASTER'S DEGREE.

*The foreign language requirement.*—Of the 42 institutions, 36 state that no foreign languages are required for the master's degree. Of the 5 institutions which report a requirement, 3 insist upon French and German and 2 upon French or German.

In the few instances where the foreign languages are required for the master's degree the ability which the student must show is a "reading knowledge" sufficient for research.

#### DOCTOR'S DEGREE.

Only 2 institutions granting the doctor's degree in education specify no requirements in foreign languages. One requires "two foreign languages"; 8, "two modern foreign languages"; 17, "French and German"; and 1, "such as are necessary for research."

Where opinion deviates from practice in the matter of the requirements of foreign language is in the recommendation of several persons answering that such languages should be required as are needed for research. The emphasis seems with these to be more upon a requirement where a functional relationship of the foreign languages to the pursuit of graduate study is demonstrable, rather than merely upon the relationship of tradition usually obtaining.

In almost every case the ability is a "reading knowledge," sometimes qualified as "fluent," "ready," etc.

*By whom tested.*—In 16 cases where answer is made, the "appropriate" department, e. g., French or German, applies the test of ability. But in 6 instances the test is applied by some one in the department of education.

*When the candidate must show the ability.*—In 19 cases of schools granting the doctor's degree, the ability in the foreign languages must be shown a year or approximately a year before coming up for the degree or coming up for the final examination.

### VIII. EXAMINATIONS.

#### MASTER'S DEGREE.

*Final examination.*—Almost three-fourths of the institutions granting the master's degree insist upon a final examination. The remainder hold no such final examination.

*Character of the examination.*—Of these institutions in which a final examination for the master's degree is required, 16 make it oral; 1, written; 6, both oral and written; 8, either; 2, either or both; and 1, oral or both.

For the most part these examinations concern themselves with both the courses and the thesis. In a few instances the examination is solely upon courses.

*Preliminary examination.*—In only 8 instances is the preliminary examination required for the master's degree.

#### DOCTOR'S DEGREE.

*Final examination.*—All institutions granting the doctor's degree require a final examination.

*Character of the examination.*—In 11 institutions, the final examination is oral; in 1, written; in 7, both oral and written; in 1, either; in 2, either or both; in 2, oral or both.

The examination in most of these schools covers all work in courses and the thesis. In a few instances the thesis is not emphasized.

*Preliminary examination.*—Thirteen institutions require a preliminary examination for the doctor's degree; 10 do not.

*Form of the examination.*—The practice varies widely as to whether the examination is written, oral, both, etc.

*When the preliminary examination is given.*—More commonly the preliminary examination is given a year before the final examination or the conferring of the degree.

## IX. THE STAFF.

### NUMBER AND TRAINING.

The number and training of the staff in the institutions from which our responses have come are shown in Table 13. A study of its columns shows that very few of the institutions granting the master's degree only have more than 5-9 instructors, while a large proportion have 4 or less. The institutions granting the doctor's degree tend to have a larger number of instructors. However, there are four institutions in this group that have four or less than four instructors.

TABLE 13.—*Number of instructors in education.*

Number of instructors.	Total of these answering.		Granting master's degree only.		Granting both master's and doctor's degrees.	
	Number of schools.	Per cent.	Number of schools.	Per cent.	Number of schools.	Per cent.
0-4.....	11	31.5	7	46.7	4	21.0
5-9.....	16	43.8	6	40.0	9	47.4
10-14.....	6	15.2	2	13.3	4	21.0
15-19.....	1	2.9	.....	.....	1	5.3
20-24.....	1	2.9	.....	.....	1	5.3
Total.....	35	100.3	15	100.0	19	100.0

### DEGREES HELD BY THE INSTRUCTORS.

The facts concerning the degrees held by those giving instruction to graduate students in these institutions are shown in Tables 14 and 15. The former of these tables aims to show the distribution of institutions by the proportion of instructors holding the doctor's degree. A comparison of the facts as to the proportions of instructors with doctor's degrees in institutions granting the master's degrees only with the proportions for those institutions granting the doctor's shows that a much larger proportion of the latter have such training.

Table 15 sets forth the situation for proportions of instructors with one or the other of the two graduate degrees.

TABLE 14.—*Percentages of instructors with doctor's degrees.*

Per cent of instructors with doctor's degrees.	All institutions supplying data.		Institutions granting master's degree only.		Institutions granting both master's and doctor's degrees.	
	Number of institutions.	Per cent.	Number of institutions.	Per cent.	Number of institutions.	Per cent.
0.0-19.9.....	1	2.9	1	.....	.....	.....
20.0-39.9.....	7	20.6	5	35.7	2	10.0
40.0-59.9.....	10	29.4	7	50.0	8	40.0
60.0-79.9.....	11	32.3	.....	.....	6	30.0
80.0-99.9.....	4	11.8	1	7.1	3	15.0
100.0.....	1	2.9	.....	.....	1	5.0
Total.....	34	99.9	14	99.9	20	100.0



TABLE 15.—*Percentages of instructors with master's or doctor's degrees.*

Per cent of instructors with master's or doctor's degrees.	All institutions supplying data.		Institutions granting master's degree only.		Institutions granting both master's and doctor's degrees.	
	Number of institutions.	Per cent.	Number of institutions.	Per cent.	Number of institutions.	Per cent.
20.0-39.9.....	2	5.9	2	14.3	.....	.....
40.0-59.9.....	1	2.9	.....	.....	1	5.0
60.0-79.9.....	6	17.6	2	14.3	4	20.0
80.0-99.9.....	13	38.2	4	28.6	9	45.0
100.0.....	12	35.3	6	42.8	6	30.0
Total.....	34	99.9	14	100.0	20	100.0

## THE TEACHING SCHEDULE.

An item of practice in departments of education that has considerable bearing upon the feasibility of caring for graduate work in any effective manner is the size of the teaching load of instructors who give the graduate training. Table 16 presents the maximum and the usual weekly teaching schedules in the institutions from which the replies have come, as well as the maximum teaching schedule regarded as appropriate for such instructors by those who responded to the questionnaire. In a large proportion of schools—53.5 per cent to be exact—the maximum teaching schedule of those who give graduate instruction is in excess of 12 hours, in a few instances running as high as 18 hours. The "usual" schedule tends to be smaller, but in almost a fifth of all the schools reporting it exceeds 12 hours. Opinion in only a single instance favors a maximum load of more than 12 hours.

TABLE 16.—*The weekly teaching schedules of those giving graduate instruction.*

Number of hours.	Maximum.		Usual.		Appropriate maximum. <sup>1</sup>	
	Number of institutions.	Per cent.	Number of institutions.	Per cent.	Number of institutions.	Per cent.
7-8.....	.....	.....	10	32.3	8	38.1
9-10.....	6	21.4	8	25.8	5	23.8
11-12.....	7	25.0	7	22.6	7	33.3
13-14.....	4	14.3	2	6.5	.....	.....
15-16.....	9	32.1	4	12.9	1	4.8
17-18.....	2	7.1	.....	.....	.....	.....
Total.....	28	99.9	31	100.1	21	100.0

<sup>1</sup> Mostly at the even numbers, 8, 10, and 12.

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# EDUCATIONAL RECONSTRUCTION IN BELGIUM

By  
WALTER A. MONTGOMERY

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in the United States, 1918-1920 ]



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# EDUCATIONAL RECONSTRUCTION IN BELGIUM.

By WALTER A. MONTGOMERY.

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CONTENTS.—Economic recovery and educational connections—Historical sketch of Belgian education—Education during the German occupation—Educational reconstruction—University reconstruction—The University of Brussels.

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## ECONOMIC RECOVERY AND EDUCATIONAL CONNECTIONS.

Belgium's progress in rehabilitation has been most marked of all the countries devastated by the World War. In resumption of operation of the iron and steel industries, of coal mining, of railroad rebuilding, of the sugar factories, of cotton spinning, of rebuilding residences and communal buildings, the Government, private initiative, capital, and labor of all grades have cooperated in a way deserving to be a model to the other governments of the world.

M. Delacroix, chancellor of the exchequer, presenting the budget to the Parliament, well summarized the task lying immediately before the country in words which have educational as well as economic import:

Our financial situation will improve by degrees. This year we shall have a budget which will approximately balance. The next year, when we are in a position to estimate the possible amount of indemnity we are to receive, we shall take steps to reduce the national debt. Taxation will have to be well distributed in order that there may be no unfair burdens. Justice is necessary, certainly, but it is imperative to meet our financial requirements. Everybody is spending too much. That must stop. All ranks of society must economize. The laborer is ready to work, if only he can be assured that his efforts have other results than the mere enrichment of his employers.

The interest of the country lies in increased production. It is a very real necessity. War has impeded civilization. We have to make up lost time. Economy is necessary. Always economy. Our opportunity is at hand. The past lays upon us responsibility, and we have no right to compromise the future of our country.

Economic and material rehabilitation have gone hand in hand with the intellectual and the educational. According to the reports of the Anglo-Belgian Union, Belgian cooperation, under the leadership of the noted author, Emile Cammaerts, has organized popular lectures throughout Belgium for the purpose of spreading knowledge of modern countries. All are illustrated, and treat of subjects of vital bearing on the future well-being of Belgium.

The economic revival is accompanied by an extraordinarily active intellectual revival. All universities and schools are crowded far beyond their capacity, and the minister of science and art, M. Jules Destrée, is even contemplating restoring entrance examinations to universities in order to eliminate those who are less fitted for higher studies. Not less than five or six literary reviews have been lately founded in Belgium, and a generation of new writers, including some remarkable younger poets, is coming to the fore.<sup>1</sup>

One of the signs of educational awakening in Belgium was resumption of the publication of the journal of primary education, entitled *L'École Nationale*. Suspending publication with the invasion in August, 1914, it is now revived under the slightly different but more comprehensive title *L'Éducation Nationale*. Its first numbers, November 1 and 15, 1919, outline a statesmanlike program for the reconstruction and revivification of Belgian education. It does not regard the task as a piecemeal one, or segregate the several departments of education. It rather coordinates and makes each live by organic contact with the other. Belgian education is treated under 14 aspects by the most noted educational thinkers of that stricken country. Each sees in education the first and most powerful agency in the rehabilitation of the country.

### HISTORICAL SKETCH OF BELGIAN EDUCATION.

In order the better to understand what Belgium has in the way of educational foundations on which to build, it may be well to summarize the chief events and currents of Belgian education before the World War. The organic educational law of 1842, which marks for Belgium the beginning of a modern educational system, was repealed by the law of 1879, carried by the Liberal Party. After a trial of five years, it was supplanted by the law of 1884, carried by the Catholic Party, and constituting in essence a return to the law of 1842. In 1914, just before the war, a new school law, with compulsory attendance from 6 to 14 years as its most prominent feature, was passed by Parliament, but did not, of course, go into operation.<sup>2</sup>

### EDUCATION DURING THE GERMAN OCCUPATION.

The International Bureau of Teachers' Associations, to which the German Teachers' Association also belonged, had its headquarters in Belgium. At the outbreak of the war the bureau was transferred to Holland. According to *Neue Bahnen*, January-February, 1915, page 215, the International Union made special efforts to ameliorate the condition of Belgian teachers. They endeavored to secure the return

<sup>1</sup> Abridged from "The Present Situation in Belgium," *The New Europe*, May 6, 1920.

<sup>2</sup> Facts taken from *La Reforme de l'Enseignement*, by M. Léon De Paeuw, Brussels, 1919.

of the Belgian teachers to their schools, in which they were seconded by the German military authorities, who promised that the teachers who should open their schools again would be permitted to go on with their work undisturbed. Their presence, it was hoped, would help to restore order and nominal activities in the occupied territory.

Among the population there was a strong desire to have the schools resume their work even in places that had suffered much during the invasion. In Brussels the Germans claim that instruction had suffered virtually no interruption. Schools were opened in Luttich on October 1, 1914, in Antwerp November 9, in Louvain December 1. The German Advanced Modern School in Brussels was also to resume its work at as early a date as possible.

In the *Neue Bahnen* for August, 1915, a correspondent, Walther Kluge, writes of the Belgian schools (none were in session where he was):

The school buildings had been commandeered; furniture removed or piled haphazard in the rooms. Biblical pictures, very indifferent as works of art, hung on the walls.

According to a statement of a Belgian teacher, a compulsory law was to have gone into effect in 1914. The teacher did not like the State school—a class of schools conducted parallel with those conducted by the clergy. The teachers did not concern themselves with politics—they were neutral.

The salaries of the teachers were apportioned on a pro-rata basis of the population of the district, creating four salary classes. Every two years an increment of 100 francs was added to the basic salary, rising to a maximum in each of the four classes of 2,600, 2,750, 3,100, and 3,400 francs, respectively.

From the training colleges a teacher might procure a diploma for each of several branches. The more diplomas he had, the better his pension status. Assuming that a teacher must be retired on a pension with 25 years of service, and has had a salary of 3,000 francs, the number of his diplomas was added to his years of service, and the sum multiplied by his salary, and the product divided by 50. (Example:  $25 + 2 \times 3,000 \div 50 = 1,620$  francs.)

Anything like a uniform standard of education was impossible in view of the many classes of schools—State schools, schools accredited by the State, schools conducted by the clergy, and still others. To this feature of Belgian education must be ascribed the lack of laws for compulsory attendance.

The schools and the teachers look to France for their models in educational administration. Though the Flemish people are of Germanic origin, their education certainly is not.

An inquiry made of 34 persons, between the ages of 14 and 62, showed that some had attended school only 1 year; others ranged from 1 to 13 years of attendance. Some could not write their names.

## EDUCATIONAL RECONSTRUCTION.

Complete reorganization of the entire Belgian system of primary and agricultural instruction, with close adaptation to the needs of the reconstruction and war period, are the aims of the governmental and educational authorities, according to the first information furnished since the war by the department of sciences and arts. It is

anticipated that the program and schedule of studies of the primary and normal schools will be the first points of attack.

The new organic law of primary instruction expressly provides for the installation of State instruction along practical lines for pupils of 12 to 14 years. These schools are to be modeled after the continuation schools projected by the English education act of 1918.

The devastated schools of Flanders are in actual process of reconstruction. The Province of East Flanders has voted a preliminary loan of 10,000,000 francs to aid the individual communes in the establishment of 700 to 800 classes in the public schools, in addition to those existing before the war. This does not include those destroyed by the German occupation.

*Number of pupils in the primary schools in Belgium in June, 1920.<sup>1</sup>*

	Public schools.	Free (denominational).
Schools.....	4,827	3,132
Classes.....	12,575	11,212
Boys.....	326,698	156,975
Girls.....	187,309	298,759
Teachers (men).....	8,086	3,046
Teachers (women).....	7,512	8,094

<sup>1</sup> Figures taken from the organ of the Belgian Teachers' Association.

The school law passed October 13, 1919, modifies the organic law of primary education in quite a number of its articles, chiefly in those that fixed the salaries of teachers. Following are the main lines of the changes:

**ARTICLE I.** The communal council fixes the salary of communal teachers on the following bases:

1. A minimum salary of 3,000 francs for men teachers and of 2,600 francs for women.
2. An allowance for residence fixed as follows for several classes:  
 In communes of 5,000 inhabitants and less, 200 francs.  
 In communes of 5,001 to 40,000 inhabitants, 300 francs.  
 In communes of 40,001 to 100,000 inhabitants, 400 francs.  
 In communes of more than 100,000 inhabitants, 500 francs.

This allowance shall be doubled—

- (a) For married men teachers and for widows and widowers with one or more children.
- (b) For heads of schools.

**ARTICLE II.** The teacher is entitled to 10 annual increases of 100 francs, followed by 10 biennial increases of 150 francs, up to the sum necessary to increase the minimum allowed by law up to 2,500 francs.

For women teachers the scale of increases is fixed, respectively, at 80 francs and 120 francs up to 2,000 francs, the minimum allowed by law.

**ARTICLE V.** An allowance for administration, calculated on the basis of 100 francs a class, is granted to school heads officially, to the teachers in charge of instruction, who also have the oversight of five classes or less. This allowance can not be less than 200 nor more than 600 francs.

The *Moniteur Belge* of March 27, 1920, published a series of royal decrees establishing a Higher Council of Public Instruction, reorganizing the existing conseils de perfectionnement for higher, middle, normal, and primary education, and designating the members of the four groups.

By the terms of these decrees, the Higher Council of Public Instruction, composed of 15 members named for a term of four years, is charged with the duty of establishing the coordination of the different divisions of education in which the State is interested. It meets at the call of the minister of sciences and fine arts, or at the request of at least half its members. The director general, the secretary of public instruction, sits with it, but has only a consultative voice in its deliberations. The council is to give its advice upon matters submitted to it by the minister.

Every member may also submit to the council matters for consideration which seem useful to him, and call for their examination and a vote thereon for governmental guidance. The council may meet separately or with one or the other of the conseils de perfectionnement. It may delegate one or more of its members to attend, with consultative voice only, the deliberations of one of these councils.

The higher council may study every question concerning education, even if it be not submitted to it by the minister. It may, with the authorization of the minister, institute investigations, consult specialists, and take charge of temporary inspections and traveling missions, under the direction of the minister.

The regulations governing the three conseils de perfectionnement are along the same lines. It is to be noted that the council for higher education, consisting of 21 members, will have the power finally, when the question shall concern the interests of the universities exclusively, to deliberate with its body reduced to only the representatives of that division.

The council of middle education, consisting of 10 members, may divide into two sections, the first having to do with the athenées, the other with the middle schools. It is to give its advice upon the competitive examinations, upon the national expenditures for this division of education, upon examinations, degrees, certificates, all as limited by legal dispositions; it examines the textbooks used in this division of education, and proposes instructions to be given to inspectors.

The council of normal and primary education, composed of 15 members, embraces two sections, the normal and the primary. It gives its advice upon all matters submitted to it by the minister or



by one of its members. The minister submits to the council the reports of the provincial inspectors on the situation of primary education. The council examines the books and teaching materials submitted to it by the minister or by its members.

To sum up, the reform instituted by M. Destrée, the minister, consists first of conferring upon the three councils existing before the German occupation and now reorganized the rights of initiative they did not possess before and, by the establishment of a higher council of public instruction, in coordinating the labors of the councils in such a way as to fill in gaps, avoid duplication, and establish the necessary links between the various divisions of education.

The opening session of the four councils, meeting together, was held March 30, 1920. The minister in a moving appeal called upon all the members to labor together for Belgium's reconstruction, and urged especial attention to matters concerning moral and civic and esthetic education, the conditions of admission to higher studies, the professional preparation of teachers of secondary education, and the improvement of primary normal education.

The Federation of Christian Teachers of Belgium met in Brussels in August, 1919, the first time since 1913, with a large number of members present. Complaint was voiced of the delay of local councils in the payment of teachers' salaries long in arrears, some as far back as the opening of the war. Resolutions were passed urging the passage of a law incorporating the following principles: Equality before the law of all schools, whether free or official; graduated salaries; salaries for men and women teachers, paid by the State, with 3,600 francs as minimum and 6,000 francs as maximum; bonuses for teachers who had fought in the war.

The official Belgian League of Education has reorganized, meeting (1920) in Brussels, and following the same general lines as the French league of the same name, urging immediate legislation along the following lines: Organization of the fourth grade, education of abnormals, assistance to poor scholars, reform and development of normal education, publication of works concerning popular education, technical education, and popular agricultural training and apprenticeship.

Before the invasion Belgium manifested progressive spirit in the matter of allowing girls access to higher studies. The same spirit is shown in the reestablishment of the Girls' High School at Brussels. This institution, however, is intended for girls who do not intend to prepare for university courses, or for the professions. Its purpose, as announced, is to train "women who are to play an important rôle in the intellectual and moral development of Belgium."

The schedule of hours follow the same lines as the athenées which admit girls, but its subjects of instruction are widely different: Psychology, history of French literature, history of foreign literature, historical criticism, history of the ancient civilizations and the Orient, history of Greek and Roman civilizations, national history and political institutions of Belgium, social and economic studies of modern times. Latin and Greek courses are elective.

The city of Brussels has established the normal studies necessary for the training of teachers of manual arts, especially for fourth-grade children. They will extend over two years, with eight hours weekly. The first year will be devoted to woodworking, metal working, technical and ornamental drawing, technology, use of tools, and wood carving.

In the second year the studies of the first will be enlarged upon, and in addition studies in industrial hygiene, trigonometry, elements of mechanics, and special methodology of manual arts will be offered.

Similar schools for girls are projected, to be opened as soon as possible.

The new free (popular) University of Brussels has secured the site occupied by the French section of the exposition of 1910 and will at once erect an adequate building. For this, among other subscriptions, the provincial council of Brabant has granted a million francs.

#### UNIVERSITY RECONSTRUCTION.

At the session of the Belgian Parliament on September 10, 1919, the premier communicated to the Chamber of Representatives a letter from Mr. Herbert Hoover, which, after accounting for all maintenance expenses of the Commission for Relief in Belgium and estimating a balance of 150 millions of francs still remaining, proceeded to set forth a financial project for the restoration and development of higher education in that country.

According to Mr. Hoover's statements—

The war and its economic effects demonstrated the supreme importance of higher instruction for all social classes and especially for the masses. It is necessary (a) to open schools of higher education for the sons and daughters of those who have not now the means to send them to such schools; (b) to increase the revenues of such schools in such a way that they may render to the community the services justly to be expected of them and that they may be able to receive new development in the future.

Mr. Hoover proposed that—

1. Thirty-seven per cent of the sum of 150 millions be applied to the establishment of a national educational foundation managed by a commission composed of Belgians and Americans. The revenues of this foundation shall be intended as maintenance grants to the children of families in moderate circumstances in order to permit them to proceed to higher education.

2. Sixty-three per cent of the 150 millions shall be appropriated at once to the following institutions: The Universities of Brussels, Louvain, Ghent, Liège (13.33 per cent for each); school of mines at Mons (3 per cent); Colonial Higher School (6.66 per cent).

The Chamber of Representatives accepted the donation with profound gratitude and appreciation of its meaning for the future of Belgium.

The National Educational Foundation has thus at its disposal a capital of 55,000,000 francs, which it is hoped may be still further increased after the final settlement of all accounts of the Relief Commission. This foundation will be incorporated by a law yet to be passed. The revenues will be devoted especially to the establishment of local and traveling scholarships for needy students. The trustees of the foundation have as their aim to make such selections of beneficiaries as shall introduce a truly educational élite into the universities. On the other hand, a portion of the revenues will be appropriated for the extension of learning and granted to professors to permit them to travel, to pursue scientific research, and to publish specialized works which their personal resources do not permit them to issue.

The sum total assigned to institutions of higher education is fixed, subject to change, at 95,000,000 francs—20,000,000 for each of the four universities, 10,000,000 for the colonial school, 5,000,000 for the school of mines. Of this sum, an advance of 20,000,000 was turned over in September.

Interesting legal complications have resulted from these donations. The free Universities of Brussels and Louvain have been incorporated by law since 1911; but the State Universities of Ghent and Liege are not on this footing. They desire, however, to obtain this status by law. The scheme outlined by Mr. Hoover now proposes to divert the 4 million intended for higher education not to the State but to the universities themselves. The latter hail this with delight, for they perceive in the decree of incorporation a measure which will confer upon them, in the eye of the State, an autonomy which they have never enjoyed and do not now enjoy. They see in it also far-reaching consequences, not only for material enrichment but also for the recruiting of their scientific and professorial staffs.

The announcement of the donation of the commission for Belgian relief has aroused delight and no less surprise in scientific circles. The preliminary steps to the decision of the commission were known to only a few privileged members, though they involved many long and minute investigations into educational matters. The genesis of the final act may be traced back to April, 1916. While the war was in full progress, delegates from the four universities and the national relief committee, undaunted and still full of confidence in the ulti-

mate issue of the conflict, meeting for routine work, dared to look beyond that into the field of the nation's educational needs. With the increase of the sums at the disposal of the committee, their plans took a wider scope and came to include educational matters as well.

The donation attains two ends at once, the democratic and the scientific. It has received universal commendation both in Belgium and France. In the latter country it has been commended even by that section of the French press which is inclined to question the future of purely scientific studies in the increasing democratization of modern society. The combination adopted, that of carrying higher education to its highest degree of perfection and at the same time making it freely accessible to the youth of the masses, affords the best of all solutions yet devised for the problem of the future relations of science and democracy—a problem universally regarded as one of the most serious that has to be faced in modern education.

A vital feature of the scheme is the stipulation that no portion of the donations is to be touched for the construction of buildings. It is intended that they be entirely devoted to the improvement of the conditions of life for the professors and students, and the endowments of laboratories and libraries.

### THE UNIVERSITY OF BRUSSELS.

Three new courses have been instituted this year in the University of Brussels. One, in pedagogy, has been established independent of the faculties. Courses are open to teachers of the secondary and primary education, as to candidates for the doctorate of philosophy, letters and sciences, who propose to follow a career in the *athénées* (corresponding to the French *lycées*). In order to appreciate more fully the meaning of this new regulation, the reader is reminded that, since the abolition of the higher normal schools in 1890, the teaching force of the secondary schools has had to be recruited among the doctors sent out by the universities. However, it is recognized that if the scientific preparation of this type of teachers is satisfactory, their professional and pedagogical preparation is by no means so. It is to remedy this situation that the University of Brussels has established the interrelated unit of courses making up the pedagogical section: Biology, psychology, sociology, pedagogy, methodology, physical education and hygiene, history of pedagogy, ethics, and history. These courses are reenforced by practical exercises in teaching, in experimental psychology and pedagogy, and in social studies tending to bring teachers and students together.

After two years of attendance on these courses, practical exercises, grouped studies, and two examinations, the students obtain a

certificate of pedagogical studies. Fifty students enrolled for 1919-20.

Officially dependent upon the faculties of the university, the Government has established a section of technical aviation, the courses in which are reserved for engineers having a diploma. They embrace lectures and recitations upon the mechanism and construction of planes, on aviation motors, on the law of the air, hygiene, aerial photography, aerology, wireless telegraphy, map making, and laboratory examinations.

A section in romance philology has been founded under the faculty of philosophy and letters, embracing research study into the French language and literature and kindred languages.

The University of Louvain is rising rapidly from its ruins. Its courses were resumed in November, 1919, when over 3,000 persons, including those taking single courses and adults pursuing night courses, were enrolled. The faculties of medicine and science have initiated new laboratories in temporary quarters and are seeking to give thorough instruction. Work in restoration of the world-famous library, for which subscriptions were begun in May, 1915, is under way under the auspices of an international committee of intellectuals representing 37 distinct nationalities. With this a special Belgian committee works in cooperation. On the very day of the armistice it had already catalogued 80,000 volumes, sent by friends during the enemy's occupation.

A group of scientific men have taken the initiative in establishing an institute of higher education for women, which will be put under the patronage of the University of Louvain.

The visit of the British university delegates on mission to Belgium, November, 1919, was an episode of great educational and international interest. Ten representatives of every grade of British university institutions composed the mission. They visited a representative of every grade of higher institution in Belgium. Formal conferences with Belgian educational authorities and informal discussions were held for the arriving at ways and means of mutually benefiting the educational situation of the two nations so closely allied in the fire of adversity. Extensive interchange of professors and of students was aimed at, and many definite conclusions were reached. The Belgian authorities evinced deep interest in the organization of the British universities bureau and planned the establishments of such among their own higher institutions.<sup>3</sup>

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<sup>3</sup> Abridged from report of the mission in London University Gazette, April 7, 1920.

DEPARTMENT OF THE INTERIOR  
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# AGRICULTURAL EDUCATION

By

C. D. JARVIS

Specialist in Agricultural Education  
U. S. Bureau of Education

[Advance Sheets from the Biennial Survey of Education  
in the United States, 1918-1920]



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# AGRICULTURAL EDUCATION, 1918-1920.

By C. D. JARVIS,

*Specialist in Agricultural Education, U. S. Bureau of Education.*

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## I. AGRICULTURE IN THE COLLEGES.

### THE WORK OF THE COLLEGES DURING THE WAR.

The agricultural colleges held a unique position in their relation to the Nation's security during the war period. Associated in a strong organization, united in a common purpose, and with a direct connection with the Federal Government, these institutions, without a moment's delay, began to function in the Nation's gigantic program of winning the war. Students withdrew from the colleges at first for enlistment in the military service and later through the operation of the draft, thereby relieving the institutions of much of their regular responsibility.

Most of the agricultural colleges, through cooperation with the War Department, conducted short vocational courses for the special training of men for various kinds of work in the military service. Although later on they undertook, along with most of the other educational institutions, the more pretentious kind of the training in connection with the Students' Army Training Corps, they from the beginning of the war turned their attention almost wholly to increasing the food supply. Of those members of the several faculties who did not enter the military service many were detailed to the Federal departments for special duty and others were assigned to the extension divisions of the colleges.

From the standpoint of agricultural education, therefore, the colleges of agriculture failed to function during the war period. It is generally conceded, however, that the influence of these institutions during the previous half-century, coupled with that in the food production program during the war, was an important factor



in the Nation's great achievement. In the first place, through the researches of these institutions, there had become established a ground work of knowledge concerning economic food production that was of inestimable value during the war. Secondly, through the efforts of these colleges, thousands of intelligent leaders had been developed for the rural communities, each of whom served as a powerful stimulus when the emergency came. Lastly, through the organized extension activities of these institutions, extending to the remotest corner of the several States, millions of farmers were enabled to obtain and apply the most approved agricultural practices and methods of management and they were enabled to work in harmony with the well-conceived, Nation-wide program for increased food production.

#### PROBLEMS FOLLOWING THE WAR.

Those who expected a prompt return to normal conditions in the agricultural colleges following the cessation of hostilities have been disappointed. The problems of readjustment have been many and in some cases very serious.

*Increased enrollments.*—The outstanding problem in most of the colleges following the war was that of accommodating the greatly increased number of students applying for admission. Most colleges, even before the war, had reached the limits of their capacity, and to find room for those students whose registration was deferred on account of the war, along with those who would normally apply for admission, constituted a real problem. In some institutions, especially those located in the open country and in the small towns, the problem was to find living quarters. In other colleges, inadequate classroom and laboratory facilities constituted the chief difficulty. In still others, the lack of a sufficient number of teachers developed into a serious situation. In many cases all of these problems presented themselves, resulting in situations never before confronted. The dean of the college of agriculture in one of the Middle Western universities sums up the situation at his institution as follows:

We have been caught with a greatly increased attendance and a decreased faculty, and it has been a case for the last year of meeting situations as best we could from time to time. We have about 35 vacancies on our faculty which we can not hope to fill, and the result is that we are not only unable to do new things but we can not do the old things as well as heretofore.

*Inadequate support.*—Closely related to the problem of taking care of the greatly increased number of students is the problem of support. The marked shrinkage in the purchasing power of the maintenance appropriations has created a situation in which all of the colleges are seriously concerned. While most of the institutions have suffered from their inability to buy the regular amount of supplies, this feature of the problem has not been so generally alarming as

that resulting from the inability of the institutions to retain their faculty members. The quality of service rendered to commerce and industry by college professors and instructors during the war has led commercial and industrial concerns to look to the higher institutions for men of superior ability, resulting in the loss to the service of many of the best teachers and investigators. Administrators in this connection are eager to explain that these men have not really left from choice but in most cases have been forced out by the inability of the institution to pay them salaries sufficient to support them and their families in reasonable comfort. It has been pointed out also that a more complete disruption of the several faculties has been prevented only by the spirit of consecration and the ardor of institutional attachment displayed by many members of the teaching force, especially those who were not wholly dependent upon their salaries for support.

In several States maintenance appropriations were increased sufficiently to provide for a general advance in salaries, but in many cases such increased appropriations were barely sufficient to take care of the increased expense resulting from the advance in the cost of supplies and equipment. In many institutions a conspicuous curtailment in the purchase of supplies was necessary to provide for the increase of salaries of individuals whose services could scarcely have been spared. In some cases, also, building operations have been postponed in order that all available funds may be devoted to the increasing of salaries. Several institutions, to meet their legitimate obligations, have created deficits with the expectation that their respective legislatures would provide the necessary funds at forthcoming sessions.

Twenty colleges, out of 35 reporting, made general advances in salaries during the biennium. Such advances range from 10 to 30 per cent. The colleges of Colorado, New York, South Carolina, and Tennessee have reported 30 per cent advances for full professors and proportionate increases for teachers of lower rank. New Mexico reports an average advance of \$200 and Oklahoma \$400 for teachers of all ranks. Florida and Maine report a flat increase of \$300 for full professors and proportionate increases for teachers of lower rank. Wisconsin reports average increases of from 15 to 27 per cent according to rank.

*The high cost of building construction.*—A few of the colleges have been able to make some progress in new buildings and other permanent improvements. In many cases the funds that have been appropriated for such purposes have been held with the hope that the cost of building would decline. Several institutions report that so rapid has been the advance in building costs that appropriations based upon estimated costs were entirely inadequate to meet the needs, making it necessary to hold up building operations until additional

appropriations can be obtained. Among the more conspicuous appropriations reported for new agricultural buildings are the following: Alabama Polytechnic Institute, \$125,000; Connecticut Agricultural College, \$226,455; Rutgers College of New Jersey, \$75,000; New York State College of Agriculture, \$44,000, and \$3,000,000 for a building program extending over a number of years; South Dakota State College, \$210,000; University of Tennessee, \$300,000; University of Wisconsin, \$49,000.

#### CHANGES IN ORGANIZATION.

With the increase in growth and in the growing complexity of the activities of the colleges of agriculture has come a realization that the question of organization of curricula and general supervision of instruction has not received the attention that it deserves. Several colleges during the past year or two have attempted to solve this problem by the appointment of an officer as director of instruction, coordinate with the director of research and the director of the extension service. The New York State College of Agriculture and the University of California are among those which have recently adopted this plan. In the latter institution, the appointment is regarded as temporary; the idea being that it may be passed around from year to year among other members of the faculty of agriculture. The functions of such an office vary with the institution but generally include the study and coordination of curricula, the qualifications of instructors, and the improvement of instruction in general.

There is a tendency in some of the colleges, also, to extend the responsibility of the directors of instruction, research, and extension, respectively, throughout the whole institution. The Alabama Polytechnic Institute and the University of Maryland have recently adopted this plan. The object of such a plan is to insure properly coordinated programs of teaching, of research, and of extension. Extension and research activities are gradually extending beyond the limits of the agricultural division, and such a plan as this insures closer cooperation between divisions.

#### IMPROVEMENT OF INSTRUCTION.

Unusual interest has been manifested among agricultural faculties, particularly during the past year, in the subject of improvement of instruction in the colleges. Evidence of this fact is found in the character of the discussions at the Springfield meeting of the Association of Land Grant Colleges. Dean R. L. Watts, of the Pennsylvania State College, at this meeting described an experiment in the professional improvement of college teachers. The services of an expert educator were procured to conduct a 10-lecture course for members

of the faculty of the Pennsylvania State College. The course included instruction in the methods of organizing courses, of maintaining interest, of measuring results, etc. Attendance was entirely optional. At first many of the faculty members were skeptical concerning the outcome, but as the work progressed the interest became intense, and all members of the class agreed that the results of the experiment were highly valuable.

Dean W. W. Charters, of the Carnegie Institute of Technology, addressed the association on the subject of "Improvement of College Teaching." This address was a forceful plea for the general adoption of the problem method in teaching. He pointed to the fact that the method was not new, for it had been successfully applied to the teaching of law for many years. He declared that it was this method, known in law education as the "case method," that revolutionized education in law.

Many speakers called attention to the need for introducing more technical courses during the first two years of the four-year college course in agriculture. The belief that courses in general chemistry, botany, zoology, and geology should be regarded as prerequisite to all technical courses in agriculture is gradually giving way to the belief that the educational process is facilitated by giving instruction in the concrete in advance of the abstract.

The general appreciation of the need for greater attention to the question of improvement of instruction has been shown by the effort on the part of the colleges to create an office for the specific purpose as described under the preceding head.

#### MODIFICATION IN CURRICULA.

That there is a growing need for a more general training in agriculture and country life than that offered in many of the colleges, especially those having a liberal elective system, is shown by the results of a study made by the Bureau of Education's advisory committee on agricultural education.

The present is regarded by many as a transition period in which much of the technical instruction given in the first and second years of the college curriculum will gradually be pushed back into the secondary school curriculum. That progress is being made in this direction is shown by the following statement from the 1920 announcement of the University of California:

Three new courses in general agriculture, one each in agronomy, animal husbandry, and horticulture, will be offered and may be taken as elective work throughout the freshman year and the first term of the sophomore year. Students who have completed satisfactory high-school work in agriculture will not ordinarily take these three college courses and will therefore have more time for other college work.

During recent years there has been a disposition on the part of a number of the larger colleges of agriculture to allow students the greatest freedom of choice in the matter of specialization. Students have not only been allowed to specialize in subjects like animal husbandry or horticulture, but in many institutions they have been permitted to carry their major work in such narrow lines as horse raising, sheep husbandry, fruit growing, vegetable growing, plant breeding, microbiology, soils, etc. It is interesting to note a decided reaction toward the limitation of specialization. The University of California, for example, has reduced the number of major subjects in the college of agriculture from 17 to 6. In keeping with the same general policy this institution has stricken 40 courses from the list offered by the college of agriculture. The instruction contained in these courses is now organized in 18 new courses, making a net reduction of 21. It is the belief of the authorities that this reorganization of instruction will obviate excessive duplication and reduce the number of small classes and prevent overspecialization.

On the other hand, many colleges continue to introduce new courses to meet the advanced requirements of professional groups. The New York State College of Agriculture, for example, has recently introduced specialized courses for fertilizer salesmen, poultry judges, and bee-keepers. The University of Wisconsin also has introduced specialized courses for boys' and girls' club leaders, and for county demonstration agents. Such courses, however, have a definite aim, and taken with other related courses in the curriculum serve to make the instruction more comprehensive rather than to restrict its scope.

There is also a tendency on the part of the colleges of agriculture to require more work in economics and sociology, and to bring about a closer relationship between the instruction in economics and that in technical branches and more practically the instruction in farm management. The New York State College of Agriculture has united the departments of rural economy and farm management and has established a new department of rural social organization in which five new courses are offered.

The course designated "agricultural relationships," as offered last year for the first time by the Kansas State Agricultural College, is also an attempt to give the student a knowledge of the whole field of agriculture from the economic standpoint.

The one, two, and three year subcollegiate curricula, as offered by many of the colleges, are still very popular despite the rapid development of agricultural courses in high schools. The Massachusetts Agricultural College has established a two-year curriculum to meet the demand for instruction of this nature. The Connecticut Agricultural College has shortened its two-year curriculum by reducing the number of months in each session from nine to five, and has raised

the minimum age from 16 to 18 years. Although of a secondary nature, such courses meet the need of men of mature years who are not willing to attend classes with students of secondary school age. The tendency in the college is to limit more and more the enrollment in these curricula to mature students.

*Agriculture for women.*—Possibly as a result of the interest in agricultural pursuits developed by woman during the war, a demand has arisen for collegiate instruction for women in this subject. Some of the colleges have already responded to this demand, and many women students are now enrolled. The Massachusetts Agricultural College, for example, has introduced a limited amount of work in home economics for the benefit of young women who desire training for agricultural vocations. At the University of Wisconsin, 12 women students taking agriculture have formed an agricultural women's association.

#### TRAINING TEACHERS OF AGRICULTURE.

Before the passage of the Federal Vocational Education Act very few, probably not more than six, of the colleges of agriculture offered separate curricula or major options for the special preparation of teachers of agriculture. A number of institutions, however, have offered as elective some professional courses in education, but until recent years students have not manifested much interest in the subject. Previous to the year 1918, only 283 students graduated from special teacher-training curricula or major options in 38 of the agricultural colleges from which reports have been received. Since only one of the institutions which failed to report offered special opportunities for prospective teachers of agriculture, this figure may be regarded as approximately correct.

*Number of students in training.*—The following statement prepared from data supplied by Mr. C. H. Lane, of the Federal Board for Vocational Education, gives a fair picture of the progress in teacher training during the past two years:

In the north Atlantic region 352 students were enrolled in resident teacher-training classes during the year 1919-20, as against 247 for the previous year. In the southern territory 849 students were enrolled in 1919-20, compared with 389 for the previous year. The east-central region had an enrollment of 343 for 1919-20, as against 282 for the previous year. In the west-central region, for 1919-20, 491 students were enrolled as against 164 for the previous year. In the Pacific-coast region 275 students were enrolled in 1919-20 compared with 252 for the previous year.

In summarizing the enrollment in resident teacher-training classes it is found that there were 2,310 students enrolled during 1919-20, compared with 1,334 for 1918-19. Experience has shown that many students who take work in these classes do not become teachers. Furthermore, these enrollments represent the number of students of all years, and many of them will not be immediately available for service. In 1920, 444 students who had carried the work in agricultural education, were graduated.

*Demand for teachers exceeds the supply.*—Despite the increase in the number of students graduating from teacher-training curricula the demand for teachers of agriculture is insistent and far exceeds the supply. A recent inquiry revealed the fact that 465 additional teachers of agriculture will be needed for the year 1920-21. On the basis of the amount of money which will be available when the Smith-Hughes appropriation matures in 1925-26, Mr. Lane estimates that 1,135 teachers, at an average of \$2,000 per teacher, will be needed if all the money is to be used. In his estimate Mr. Lane assumes that \$9,071,000 will be available, and that the several States will reimburse teachers on the basis of one-third Federal, one-third State, and one-third local, in harmony with present tendencies. Estimates, based upon the probable growth of secondary agriculture, indicate the possibility of an even greater demand, and suggest that unless the colleges greatly increase their output of agricultural teachers, progress in the development of secondary agriculture is likely to be retarded.

So insistent has been the demand for teachers of agriculture that many of the agricultural colleges have been called upon to offer during the summer special training courses of from four to nine weeks' duration. Some of these courses were planned especially for supplying the needed technical information to persons who already possessed the necessary professional training and teaching experience. Others were designed for agricultural college graduates who needed professional training in education to qualify for teachers' certificates.

*The teacher-training curriculum.*—Along with the growth of teacher-training work in the colleges there has been a tendency to scrutinize more closely the content of the teacher-training curriculum. While a few colleges still require prospective teachers to take the regular agricultural curriculum, which requires specialization in some phase of the subject, and to carry as elective the necessary professional courses, the majority of them have provided specially adapted curricula.

There is a growing belief that the prospective teacher of agriculture should be given more instruction in rural economics and rural sociology than that generally included in the curriculum. So insistent has been the demand in some institutions for such work, that the teacher-training curriculum has been modified in various ways. In some cases the new work has been added at the expense of technical instruction; in others, the amount of humanistic work has been reduced, and in still others some of the professional courses have been eliminated. Many of the educational specialists at the institutions are now asking the question whether an additional year's work should not be required for students who plan to teach agriculture. The University of California already has taken steps in this direction and

other institutions are encouraging students to take an additional year and secure a master's degree.

The amount of work required in professional courses including psychology ranges from six semester hours, as required by the University of Arizona, to 29 semester hours as required by Clemson College. The common requirement, however, ranges from 12 to 18 semester hours. Seventy-six per cent of the colleges reporting fall within this range. The most common requirement is 15 semester hours, which is prescribed by 12 colleges. In many States the amount of work to be carried in professional subjects is prescribed by law, and in such cases the colleges aim to provide the minimum requirement. Such laws frequently were made before the training of teachers of agriculture was undertaken and were formulated to meet the needs of teachers of academic and science subjects. Since the teachers of agriculture require so much technical knowledge, many of the States have modified their laws to meet the peculiar needs of such teachers.

Several of the colleges still require the students who expect to teach to specialize in some phase of agriculture and to take as electives such courses in education as are needed to qualify for a certificate to teach. Most of the men in charge of teacher-training work in the colleges have come to believe that for the prospective teacher of agriculture a general course in agriculture is more suitable than one that is highly specialized. There has been conspicuous progress during the past year or two in the development of basic courses in the several branches of agriculture to meet this long-felt need, and at the same time to insure a broad general knowledge of the whole field of agriculture on the part of all students of the subject.

*Facilities for practice in teaching.*—Not only has rapid progress been made in the improvement of curricula for the training of teachers of agriculture, but great achievements have been made toward providing appropriate facilities for practice in teaching on the part of prospective teachers. The institutions have realized that practice work should be conducted under conditions as nearly normal as possible, and it has been necessary first of all to establish secondary schools of agriculture to serve as laboratories for observation and practice. Although the plans of many of the colleges for providing practice in teaching are in a formative stage, it seems advisable to record the present status in order that all may be informed concerning the methods commonly employed to meet the requirements. The nature of the facilities at present may be classed somewhat arbitrarily under four heads, as follows:

1. Practice school maintained by the teacher-training institution. Six colleges, those of Arkansas, Missouri, North Dakota, South Carolina, Wisconsin, and Wyoming, depend upon the institution's



practice school to provide facilities for practice teaching in agriculture. The University of Missouri makes use of a high school in a near-by town as well as its practice school. The North Dakota Agricultural College depends to some extent upon the short-course and other classes in secondary agriculture to augment the facilities of the practice school. It may be assumed that most of these practice schools maintain departments of agriculture, but the statements in a few cases are very vague in this respect.

2. Secondary schools of agriculture at the college. According to the returns, eight colleges, those of Colorado, Kansas, Minnesota, Nebraska, Montana, New Mexico, Oklahoma, and Rhode Island, provide for practice teaching in secondary schools of agriculture connected with the college. In the case of New Mexico, agricultural classes in the college preparatory school provide the facilities for practice. In the other cases, the work is done either in the so-called "school of agriculture" or in a regularly accredited vocational school on the campus. Such schools differ from vocational schools throughout the State mainly in that the pupils are generally older. Where collegiate methods of teaching are employed the value of these schools for practice teaching is greatly diminished.

3. One or more local or near-by high schools with agricultural departments. Twenty-five of the colleges, those of Alabama, Arizona, Delaware, Florida, Georgia, Idaho, Illinois, Iowa, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, Nevada, North Carolina, Ohio, Oregon, Tennessee, Texas, Utah, Vermont, Virginia, Washington, and West Virginia, make use of near-by high schools to provide practice teaching. With the exception of Illinois, Missouri, and Ohio, the work is limited to the facilities of a single school. More or less variation exists concerning the cooperative arrangements, but in most cases a member of the teacher-training department assumes the responsibility for the work of the agricultural department, the teaching being done by apprentice teachers. Maryland University pays half the salary of the agricultural instructor of the local high school, who is also a member of the department of education at the university. The University of Missouri supplies the agricultural instructor, and the local school provides all other facilities. The New York plan includes, in addition to the adoption of the apprentice-teacher method, as described below, the use of a near-by high school in which the college supplies the teacher.

4. The apprentice-teacher plan. This plan for providing practice in teaching is followed by eight colleges, those of California, Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, and Pennsylvania. The Kansas State Agricultural Col-

lege probably will adopt this plan as soon as the need for extending facilities warrants it. The cooperative arrangements with the school authorities differ somewhat, but in general the apprentice teacher serves as assistant teacher without remuneration. In New York State, and possibly others, the apprentice receives a nominal salary borne jointly by the college and the State.

Among the 40 institutions reporting information on this subject the amount of practice teaching required varies from 20 hours to 18 weeks, full time. As nearly as can be determined from the questionnaire, 23 colleges require at least 60 hours of teaching. These are the colleges of California, Connecticut, Delaware, Florida, Georgia, Illinois, Maine, Massachusetts, Minnesota, Missouri, Montana, Nebraska, North Dakota, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, and Wyoming.

From the foregoing facts it is apparent that considerable progress is being made in providing facilities for practice teaching. Eight colleges have adopted the apprentice-teacher plan; 25 colleges have arranged for practice facilities in near-by high schools in which agriculture is taught; 8 others have used for this purpose the secondary courses in agriculture on the campus; and 6 use practice schools maintained by the institution. That progress is being made is evidenced further by the fact that at least 23 colleges require a minimum of 60 hours of practice teaching.

It is evident, nevertheless, that in many colleges, especially those with large enrollments in teacher-training and with only one or two practice schools, the facilities are far from meeting the needs. In view of these conditions and for the purpose of establishing a norm toward which to aim, the committee on practice teaching of the American Association for the Advancement of Agricultural Teaching, at its Springfield meeting, in 1920, suggested certain standards which should as far as possible be attained in practice teaching. These are:

1. The teaching should be conducted with pupils who are studying vocational agriculture.
2. The amount of teaching should consist of not less than 60 actual hours.
3. The conditions under which the practice teaching is conducted should be as nearly as possible like those that the teacher will find when he accepts regular employment.
4. The teacher in training should have sufficient supervision to insure professional growth.
5. The teacher in training should have an opportunity to supervise the practical work of vocational students.

6. The community relations of the teacher of agriculture are so important that he should be expected to participate in community activities.

*Research in agricultural education.*—In the development of teacher-training work in the colleges attention is now being given to the need for research in agricultural education. The Pennsylvania State College in this connection makes this statement:

We are now planning to add to our staff of the rural-life department a research professor in agricultural education. As you may know, vocational agriculture has been taught in the vocational schools of Pennsylvania for the past eight years. We feel the need of further study of our problem, and it is for this reason that we wish to carry out research as a part of our program. In the past it has been common with practically all institutions to have most of such work done by graduate students. Of course, graduate students will be working on some such problems, but we want to go much further into the matter than it is possible for graduate students to go. We shall want for this work a man whose training and experience will enable him to go into the heart of the problem and make a really constructive study of the work in agricultural education. I very firmly believe that such a study will make the largest contribution to agricultural education that has yet been made.

At the Chicago meeting of the American Association for the Advancement of Agricultural Teaching, in 1919, the following resolution relating to this topic was adopted:

*Resolved*, That in case there are additional grants of Federal funds to the agricultural experiment stations, it is the belief of this association that provision should be made for research in agricultural education, agricultural economics, home economics, and such other subjects as pertain to the rural community.

#### AGRICULTURAL EXTENSION.

The following statement shows in a general way the scope and principal objectives of the agricultural extension program of the United States Department of Agriculture in cooperation with the colleges of agriculture, with particular reference to the activities of the past two years:<sup>1</sup>

At the beginning of the fiscal year 1918-19, the emergency appropriations, providing funds to increase production, were in force; they amounted to \$6,400,000 for the employment of county agents, and boys' and girls' club leaders. However, in 1919-20 these appropriations were discontinued, and in lieu thereof Congress appropriated \$1,500,000 to be used under the same conditions as the funds provided under the Smith-Lever Act. Therefore, the first problem that presented itself to the extension workers in 1919-20 was that of increasing funds from sources within the State. In 1918-19, the total funds from within the State amounted to slightly over \$5,600,000, which was increased to nearly \$6,500,000 in 1919-20, while the

<sup>1</sup> Prepared under the direction of Dr. A. C. True, U. S. Dept. of Agriculture.

amounts received from the Federal Government for these two years were \$9,000,000 and \$5,800,000, respectively. It is also interesting to note that of the increase of \$2,800,000 within the State, \$1,600,000 came from sources within the county and \$1,200,000 from funds under the immediate control of the college or provided by action of the State legislature.

The second problem presented to the extension workers was the organization of the counties during 1918-19 in such a way that as many as possible of the agents could be retained, in spite of the fact that the expenses of the extension work were increasing and the funds were decreasing. This meant that the counties had to be organized, in order to carry on extension work, so that they would contribute funds necessary to conduct the work. This was accomplished rather successfully with the men agents. The counties with men agents on July 1, 1918, numbered 2,435; they decreased to 2,250 on July 1, 1919, and to 2,030 on July 1, 1920. In other words, although the number of agents increased 1,000 between 1917 and 1918, or 70 per cent, the decrease was only 20 per cent between July, 1918 and 1920.

When the war began, the work with women had not been very thoroughly established in the Northern and Western States. However, between July 1, 1917 and 1918, the number of counties with home demonstration agents in the 48 States increased from 537 to 1,715. The number of home demonstration agents on July 1, 1920, was approximately 800. This is the number that should have been if the growth had been normal.

During the war, the method of marketing agricultural products was greatly upset. There was a rapid rise in prices and an unusual demand for certain products, such as pork and wheat. During these two years, the agents were actively engaged in helping the farmers to organize, so that the latter could market their products to the best advantage. Some of these organizations are the live-stock shipping associations, wool pools, cotton-classing associations, milk-producers' associations, farmers' elevators, etc.

On account of the income tax, the farmers have been compelled to keep some kind of records of their receipts and expenditures. This has resulted in a very marked demand for farm accounting records on farms. Owing to the rapid changes of prices in many interests, the farmers felt that they were selling their products at less than the cost of production, but they had no definite records or methods of accounting by which they might verify the truth of the proposition. This has led to a demand for cooperation on the part of the extension agents with the farmers in outlining the cost of production by records which the farmers can keep, in order to defend themselves when asked for a change in prices.

## II. AGRICULTURE IN SECONDARY SCHOOLS.

## SCHOOLS AND ENROLLMENTS.

The development of vocational agriculture, although somewhat retarded because of the war and on account of the scarcity of qualified teachers, has progressed favorably during the past two years. The number of schools offering vocational courses in agriculture and receiving the benefit of the Smith-Hughes fund has more than doubled during the two years covered by this report. The number for 1920 was 1,375 as against 609 for the year 1918. The most conspicuous gains have been made in the Western States. In the North Atlantic group of States the number of schools has increased during this period from 166 to 219; in the Southern group from 200 to 440; in the East Central group from 159 to 433; in the West Central group from 45 to 153; and in the Pacific groups from 39 to 121. The chief reason for the difference in the rate of development may be explained by the fact that the North Atlantic States had made greater advancement during the years preceding 1918 and had nearly reached the limit of the Federal appropriations.

From the standpoint of enrollments, also, the progress during the biennium has been notable. The total enrollment in agricultural courses in the Smith-Hughes schools has jumped from 15,453 in 1918 to 31,301, a gain of over 100 per cent. Here again the greatest gains are found in the Western States, particularly those in the West Central group, which show an average increase of 165 per cent.

Among the schools considered above are 86 for colored students in the Southern States. These schools have reported enrollments of agricultural students aggregating 1,725. The fact that the agricultural work in practically all of these schools has been established since 1918 suggests that there is a rapidly growing interest among the colored people for special training in agriculture.

*Agriculture for disabled soldiers.*—Under the provisions of the Smith-Sears act, 7,800 men who were disabled during their military service have completed or are now taking instruction in agriculture. Only about 10 per cent of this number are enrolled in regular four-year courses at the colleges of agriculture. A much larger proportion—approximately 40 per cent—are enrolled in secondary courses, either at the colleges or at State secondary schools of agriculture. The remainder are taking agricultural instruction at certain training centers in connection with military hospitals.

## PART-TIME SCHOOLS.

With the establishment of strong secondary schools of agriculture throughout the country there has come a demand for short courses and evening classes for persons who can not spare the time to attend

the regular classes of the all-day school. The colleges of agriculture in the past have given much attention to this type of instruction, especially that given in short winter courses and in summer courses. Many of them have conducted the so-called "movable school" throughout their respective States. All of these efforts have met with approval and have had a far-reaching influence upon agricultural development. The number of communities which the colleges could serve in their extension program has been limited, both from the standpoint of expense and by the number of instructors that could be made available during the season when the demand for the work occurs.

There has come, therefore, a general desire on the part of the colleges to extend their influence by establishing cooperative relationships with the local high schools in which departments of agriculture have been established. Such relationships provide for the conducting of short courses by the local agricultural instructor and for the assistance of specialists from the college. The committee on part-time instruction of the American Association for the Advancement of Agricultural Teaching has made a study of the nature and extent of part-time instruction in the secondary schools. From the information collected from a partial canvass of the conditions throughout the country, their report shows that 164 secondary schools are offering part-time instruction in agriculture. In four counties of Iowa 20 schools are giving such work. The State of Wisconsin offers opportunities in 30 schools; in New Jersey, 20 schools; in Indiana, 15 schools; in Ohio, 15 schools; in Montana, 14 schools; and in Georgia and Virginia, each 11 schools.

Concerning several classes of persons to whom this kind of instruction has been offered, and the duration of the courses for each, the committee makes the following classification:

1. School pupils in outlying school districts with a regularly employed all-day teacher or a special teacher employed for part-time work.

2. Groups of boys, usually over 16 years and under 21 years of age, who take a systematic course for three months or more during the winter, spending the entire day at school three to five days per week.

3. Groups of farm boys, usually between the ages of 16 and 21, who come in for systematic instruction for 90 to 150 minutes per day two or three times per week. Such instruction usually is given in short-unit courses and by the regularly employed teacher.

4. Adult farmers in short unit courses with meetings once or twice a week. The courses for this group are usually quite short and the method of instruction is especially adapted to adults. The teacher usually is assisted by county agents, experts from the agricultural colleges, and others.

5. Men and women of all ages, meeting once or twice a week in evening classes. Such classes generally are conducted by the regularly employed teacher of vocational agriculture, although in some instances special part-time teachers have been employed.

A very pretentious program for part-time instruction has been instituted in Iowa, where a special organizer is employed by the State board of education for each county. Local groups are organized and a special teacher employed for each group. The organizer, in addition to teaching one of the groups, supervises the work for the whole country and follows up the home project work after the classes have disbanded.

Several other States, particularly Georgia, New Jersey, New Mexico, and Pennsylvania, have organized programs for part-time institutions, but there is a decided lack of uniformity in method. More rapid and more definite development can not be expected until sufficient time has elapsed to test the methods now in use. Several of the teacher-training departments in the colleges are now giving their attention to the problem and their investigations and recommendations are bound to have a marked influence upon the trend of extension teaching.

#### IMPROVED RELATIONSHIPS.

*Better articulation with the colleges.*—There is a growing disposition on the part of the colleges of agriculture to accept work in vocational agriculture at full value toward satisfying the requirements for admission. The faculty of the New York State College of Agriculture, for example, has adopted the following resolution bearing upon this subject:

A vocational diploma in agriculture or home making from the University of the State of New York, or evidence of equivalent vocational training, will be accepted for admission to the New York State College of Agriculture. If the applicant does not present three units of foreign language he shall elect the equivalent amount of work in the university in one or more of the following subjects: Foreign language, English, mathematics, philosophy, psychology, history, economics, political and social science.

From the reports available it is shown that the agricultural colleges of 20 States grant full credit for the agricultural work done in approved high schools.

*Better relations with the college extension service.*—The contention that existed during the early development of vocational schools of agriculture concerning the respective fields of activity of the local agricultural instructors and the extension representatives of the agricultural colleges has almost passed. In most States a cooperative extension program has been worked out in which the local agricultural instructors are given a definite part. Not only does the agricultural

instructor contribute to the extension program, but the extension specialists and county agents have been of great service in the promotion of agricultural education in the schools.

A special committee, appointed by the American Association for the Advancement of Agricultural Teaching for the purpose of studying relationships of the vocational schools to the extension division of the college, reported at the Chicago meeting in November, 1919. Among the recommendations made by this committee, the following are of special interest:

That the agricultural college and vocational agricultural education be recognized as indispensable to each other. Both are desirable and permanent.

That the county representatives of the agricultural college be recognized as desirable and permanent, for the purpose of promoting effective local agricultural improvement organizations, and for the purpose of rendering semiexpert services such as, on one hand, do not require a highly specialized extension expert, and, on the other hand, such as are unusual and take care of emergencies which local instructors can not meet.

That the need for county representatives of the agricultural college be recognized for purpose of leadership, not only in senior but also in junior extension service.

That the vocational instructors be intrusted with all of the local extension work with adults which they can carry without impairment of their service as teachers and with benefit to themselves as men of sound and growing experience in the affairs of farming.

That the vocational instructor be intrusted with the local leadership of junior extension work, with the privilege of inviting volunteers to help him, but with special responsibility himself for supervision of the work of boys 12 and 13 years old.

That frequent conferences be held jointly by extension and vocational workers for the discussion of policies and for the gradual perfecting of State and local team-work programs.

#### IMPROVEMENT OF TEACHING.

The necessity in many of the States for employing substandard teachers during the early development of agricultural work in the secondary schools, and especially during the period of the war, has emphasized the need for close supervision and for the professional improvement of teachers while in service. As a result, 36 States have employed special agricultural supervision on full time. In the remaining 12 States such an officer has been employed for part time only. The number of full-time supervisors has been increased by 16 over that for 1918-19.



In addition to providing for supervision, 22 States have employed, either on full or part time, special itinerant teachers for the express purpose of training teachers while in service. The provisions for this type of work vary with the State. In some cases the itinerant teacher-trainer is maintained by the college of agriculture and constitutes an effort to follow up the work of their graduates who have entered the teaching service, although their efforts are not generally limited to their own graduates. In other States the itinerant teacher-training is supported by the State department of education. Massachusetts, which was one of the first to adopt this plan, belongs to this class, but here the work is centered at the college.

Professional training on the part of teachers is not a prerequisite to employment in this State, but men teachers who usually come with a broad technical knowledge are professionally trained by the project method. The task of training such men varies according to the needs of the individual. The program generally includes (a) personal assistance after installation; (b) special courses at the college planned to meet the needs of special groups; (c) professional improvement projects; and (d) follow-up work in the field.

Unlike the agricultural supervision, the teacher-trainer generally does not carry authority to enforce special methods. On the contrary, he goes about in the spirit of helpfulness. In this way he is able to establish intimate relations with the teachers. He soon becomes familiar with the peculiar weaknesses of the several teachers and is able to prescribe special training to meet the peculiar needs. He also becomes familiar with the local problems and is often able to straighten out difficulties that to the agricultural instructor might have been embarrassing.

This work of itinerant teacher training, while primarily established in several States as an emergency measure to make up for the deficiencies of the teachers, has proved to be so effective that it is now generally regarded as a permanent part of the program for the development of agriculture in the secondary schools.

Various other plans have been developed for the purpose of improving the efficiency of the teachers. Some States, especially those in the west central region, have depended mainly upon frequent conferences. Such conferences furnish opportunity for discussing methods in use and for making plans for future work. Other States have pinned their faith to monthly information service leaflets. Twenty-six such leaflets, in either printed or multigraph form, are now in circulation.

#### IMPROVED METHODS OF INSTRUCTION.

*Supervised practice.*—The adoption of the home-project plan, or what is now more commonly known as the supervised practice plan,

as an adjunct to secondary education in agriculture, has been general, especially in schools receiving aid from the Smith-Hughes fund. It is encouraging to note that during the past two years conscientious efforts have been made to improve the plan and to correlate the practice work more closely with the classroom instruction. It has been observed that there is a remarkable relationship between the financial return from the home project and the educational return from the whole course. Since the development of interest is one of the most important factors in educative process, it is natural for the students who are successful in their farm enterprises to derive the greatest benefit from their courses. Teachers and supervisors are emphasizing more and more the importance of selecting home projects which are likely to prove profitable. They are unanimous in their belief also that careful records should be kept of all transactions and that statements showing the earnings from each project should be required of all students.

Both as an indication of the educational benefit of the training and as an indication of the direct economic value of the work, it is interesting to note that for the past year the total financial return from the supervised practical work in 38 States amounted to \$526,122.43, as reported to the Federal Board for Vocational Education. Other States have depended mainly upon professional improvement courses at the college during the summer. Many States, of course, have employed two or more of these special methods and several have employed every known means for improving the quality of instruction.

*Reorganization of curricula.*—The subcommittee on agriculture for secondary schools of the Bureau of Education advisory committee on agricultural education, at its meeting on March 7, 1919, made the following recommendation:

1. The immediate attention of the committee is to be restricted to formulating vocational courses of the occupational extension type, that is vocational courses which are predicated upon the assumption that the pupils who are to take these courses have a background of farm experience and have an opportunity for extending and continuing that experience in connection with the instruction.

2. The subject matter to be used in making up courses is to be formulated as units, such as bean growing, potato growing, apple growing, pig raising, farm butter making, etc.

3. Courses of instruction of varying lengths and varying content may then be made up by combination of units. This would in a measure overcome some of the difficulties attendant upon an attempt on the part of the committee to formulate a uniform course of study which would in any way be suitable to the varying conditions in the United States. The particular units to be combined for any course

would depend upon such factors as the farming of a locality and upon the amount of time which is to be given to such instruction. State and local authorities will determine suitable combinations of units for given localities.

4. In organizing the subject matter of these units the production order, in general, will be followed rather than the so-called logical order usually followed in textbooks on agriculture.

5. These units will set forth the practical procedure together with such information as is necessary to carry out good practices. Parallel with this there will be an arrangement of the science content which underlies and can be correlated with such practices. In the field of crop production, for instance, practically all of the fundamental science involved in crop production can be correlated with any one of the crop units.

6. Certain of these units will be put up in two forms: (1) A short unit, to be used in sections where that particular phase of agriculture is incidental or a minor; and (2) special units, to be used in those sections where that line is a major or a specialty.

7. The best prepared men in the country will be requested to write these unit courses. In order to secure definiteness of aim and uniformity of arrangement of content, it is suggested that the subcommittee be instructed to draw up detailed specifications in harmony with the foregoing statements for the preparation of these units.

8. The subcommittee feels that whatever may be put up in the way of content there should be very carefully worked out by the subcommittee a statement of principles which should govern the arrangement and methods of teaching these units.

In harmony with recommendation seven, several persons have undertaken the development of unit courses based upon the results of an analysis of the particular enterprise selected. One on poultry raising and another on swine raising are being worked out by specialists in the department of agriculture. Others on various subjects have been prepared in the department of agricultural education of the Kansas State Agricultural College. An exceptionally well-developed course on sheep raising has been developed as a thesis in partial fulfillment of the requirements for the degree of doctor of philosophy, by Dr. J. H. Green, of the University of Illinois. Prof. C. B. Waldron, of the North Dakota Agricultural College, under the direction of Dean R. W. Selvidge, of the University of Missouri, has developed along similar lines a course on general agriculture.<sup>2</sup> This course is one of a series prepared for use in Army posts, but is worthy of more general adoption. It is based upon what is known in the Army as the applicatory method of

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<sup>2</sup> U. S. Army Educational Manual No. 10, 1920.

teaching. The peculiar value of this method, as claimed by those responsible for the training of men in the military service, is that it develops "coordination of mind and body and ability to think quickly and independently in emergencies."

### III. AGRICULTURE IN THE RURAL ELEMENTARY SCHOOLS.

The development of a rural school program based upon the interests of the child and upon the life of the community has been the dominant aim of the leaders in rural education during the recent years. Various plans have been suggested to bring about this result, and several interesting experiments are under observation. In general, the plans proposed are lacking in definiteness and for this reason teachers are slow to adopt them. Since communities differ in their interests, there are bound to be differences in detail; but when the teachers, who are to take the responsibility for teaching in the rural schools, are started out with this ideal and know how to analyze the life of the community and discover therein the materials which may be used for agricultural instruction, we may hope for rapid progress in this direction. Many of the normal schools are now beginning to specially prepare teachers for teaching in rural districts. They are becoming more conscious of the educational needs of the rural community and are endeavoring to turn out teachers with the proper attitude toward rural life and possessed with a determination to help in the upbuilding of the rural community.

With a view to helping teachers analyze the life and affairs of their respective communities, the University of Wisconsin has issued a pamphlet entitled "Social Surveys of Rural School Districts."<sup>3</sup> The author, Prof. C. J. Galpin, in recommending the survey method of obtaining information about the community, has this to say:

Sowing the seeds of civilization in the hearts of the children is doubtless opportunity enough to call forth the best that is in you. But suppose over and above this rare inducement to your labors you could take a hand in the material development of your State and see the results of your work maturing from year to year while you are waiting for education to blossom in the spirit of the children. This is precisely the challenge put up to you in the plan set forth in this circular. . . .

It is the purpose of this publication to show how to mobilize the intimate facts of farm life which surround you; how to utilize these facts so as to produce community growth.

The modification of the rural curriculum to meet the needs of the rural people necessarily means that more attention must be given to agriculture as the dominant interest of rural communities. In other words, farm life must form the basis of the course of study.

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<sup>3</sup> Extension Service of the Department of Agriculture, Circular 122, 1920.

At the 1919 meeting of the National Education Association, Prof. G. M. Wilson made a statement which fairly expresses the belief of many of the leading educators concerning the changes in the curriculum and the methods of teaching which must prevail if the rural school is to function properly in the life of the people it is intended to serve. After indicating how the methods of teaching some of the traditional subjects will need to be changed to meet these new requirements, he states:

This will mean a decided saving in time, which can be used in a more thorough mastery of the processes which are useful and fundamental, or for other purposes. In short, there must be a positive program of studies that is based squarely upon pupils' interests, community relationships, and the functional conception of education. It means that the purposes of education must be accomplished rather than that subjects as such shall be taught. The program of work must be broadened to include the vocational type. The old studies which, because of their handling, have not served the aims of health, citizenship, and education for leisure, must be recast to serve these aims, and in addition, vocational efficiency and effective home membership must be realized through new material which shall be organized into the curriculum. The result of this reconstruction of the course of study will be an entirely different product. Not a pupil stuffed with facts, dissatisfied with rural conditions, and unable to realize the larger aims of education; but instead an individual who thinks in terms of the problems of present-day life, has at hand the tools and the methods for their solution, is thoroughly in sympathy with his environment; and is an exemplification of the recognized educational aims, health, good citizenship, vocational efficiency, and the right use of leisure.

The reorganization of the rural school curriculum on this basis is bound to be a slow process. The number of schools in which the curriculum is centered around agriculture and country life is extremely small. The chief retarding factor is the difficulty of securing teachers who are qualified to teach by any other than traditional methods. Some conspicuous results, however, have been obtained, largely through the efforts of certain leaders in the training of teachers while in service.

*The four-year rotation plan.*—The results achieved in certain counties of Missouri have attracted considerable attention. The following extracts, taken from a bulletin issued by the county superintendent of schools of Nodaway County, briefly describe their four-year rotation plan for teaching agriculture in rural schools:

The word "agriculture" as used in our county refers not only to the subject directly pertaining to farming but also to anything pertaining to the life and welfare of the children and the people of the community—health, sanitation, home conveniences, social conditions, and community interests. In fact, it includes anything which enables us to teach in terms of the lives of the people and the needs of the community. It is really vitalized rural life.

*Teach growing things.*

First year. Farm crops; how seeds grow; depth to plant; corn; oats; alfalfa; weeds; gardens; canning; drying.

*Making things.*

Second year. Making nail box, wash bench, book rack, etc.; rope knots; splicing rope; cement tanks, steps, and posts; farm tools and machines; removing stains; sewing.

*Live things.*

Third year. Animals; diseases and remedies; how to feed; testing milk; poultry; useful birds; insect pests; setting the table; hot lunch.

*Soil and home.*

Fourth year. Soil fertility; cultivation; moisture; sanitation; beautifying the home; social and community work.

We study the silo, feed, grain, garden, preserving crops, birds, pictures, home conveniences, and serving hot lunches from the standpoint of what each community is doing and what can be done to make things better. This gives a motive for our work, a reason for reading, a reason for arithmetic, a reason for writing letters. We study the things themselves; we let the children themselves do the things we want done.

The clever teacher, under our old system, had the boy figure the contents of a haymow in order to fix in his mind certain principles of arithmetic. This is teaching arithmetic in terms of the life of the boy. It is good arithmetic, but it is not yet good living.

Under our new system the boy figures the contents of the haymow because he or his father wants to know how much hay there is and how long it will feed their dairy herd. This is studying real things and using the arithmetic to help the boy find out something he wants to know.

When the four years' work is finished we will start in again with the first-year's work. By this time the older pupils will have graduated and the work will be new again to both teacher and pupils. This plan makes it possible for us to give the pupils more agriculture; keeps the work live and real and vital; and makes it easier for us to supervise the work. It is relatively easy for us to train our teachers for one line of agricultural work each year, while it would be impossible for us to train them for all lines of work.

*How the work was started.*—Our county was 1 of 15 in Missouri, selected by former State Supt. Uel W. Lamkin, to try out the rotation plan. Under the direction of the State department of public instruction, and Prof. P. G. Holden, the county superintendents received a week of intensive training at Jefferson City, Mo.

Acting upon their suggestion we started with only a small group of teachers. It was a new thing, and we were urged to begin with a group small enough so that we could carefully supervise the work and give the scheme a fair chance.

We chose five capable teachers whom we judged were teaching in communities progressive enough to try out a new thing—the community was considered as much as the teacher in making our selections.

Before beginning the work the teachers had the benefit of a week's training under the same direction as the county superintendents.

Much of the success of this work is due to the regular weekly conferences we held with the teachers who were doing the work. In these conferences we did the very things that we expected the children to do. We went to the fields, determined the stand of corn, compared the yields of fields where the stand was good with the fields where the stand was poor, and figured out what it meant in dollars and cents.

All of this was extra work for the teacher, and we warned the teachers that they should not go into this work if they were looking for a soft snap. The common consensus of opinion with this group of teachers was that the work was hard but that the interest, enthusiasm, and life in their schools and in their communities so much more than made up for it that they would not think of giving it up.

After each conference each teacher went to her school loaded with material and with a clear idea as to just what she was going to do in her school.

These conferences were conducted by the county superintendent. Occasionally we took advantage of our unusual opportunity to call in members of the faculty of the State Teachers' College to present some special phase of the work.

The first year we had 5 schools in the work, the second year there were 16; this year there are 35. These teachers are held responsible for attending the conferences and for successfully carrying on the work in their schools.

*The agricultural instruction service of the United States Department of Agriculture.*—The division of agricultural instruction of the Department of Agriculture, through cooperation with the teachers in service, has done much to encourage agriculture in the rural schools. The nature of such cooperation during the past two years may be described briefly as follows:

1. By furnishing information concerning helpful material for instruction and how it may be used.

2. By emphasizing the value of community surveys and showing how they may be conducted.

3. By encouraging the teachers to follow the home-project plan through boys' and girls' club work.

4. By encouraging the use of lantern slides and moving-picture films and by establishing circuits for the distribution of visual instruction material.

5. By the publication and distribution of bulletins of use to teachers. The lessons on dairying, on potatoes, and on gardening are examples. Other publications furnish suggestions to teachers on how they can make use of certain Farmers' Bulletins published by the department.

6. By cooperation with State departments of education and State agricultural colleges in preparing suggestive outline courses of study in agriculture for elementary schools. Such a course has been prepared for the Ohio elementary schools and one is under preparation for use in the schools of Arkansas.



DEPARTMENT OF THE INTERIOR  
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# EDUCATIONAL WORK OF THE BOY SCOUTS

By

LORNE W. BARCLAY

DIRECTOR OF THE DEPARTMENT OF EDUCATION  
BOY SCOUTS OF AMERICA .

[Advance sheets from the Biennial Survey of Education  
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# EDUCATIONAL WORK OF THE BOY SCOUTS.

By **LORNE W. BARCLAY.**

*Director of the Department of Education, Boy Scouts of America.*

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**CONTENTS.**—Scouting and the schools—Scouting and citizenship—The pioneer scout—Seascouting, a branch of the Boy Scouts of America—National Councils endeavor to discover vital facts in regard to the boyhood of the Nation—International aspects of scouting—Scout handbooks, organs, and other literature—Motion pictures for boys.

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## SCOUTING AND THE SCHOOLS.

Scouting continues to enjoy the cordial indorsement of school men everywhere all over the country. More and more those interested are coming to see the enormous possibilities of cooperation between the scout movement and the schools. Many schools now give credit for scout work done outside of the schools. Many more are in hearty sympathy with the program as an extraschool activity.

In 1919 there were organized in connection with public schools 1,942 troops and 170 in connection with private schools. The records also show that for the same year 1,623 scoutmasters were also school-teachers. Many troops have their meetings in the school buildings and in turn render good service by taking charge of fire drills, first aid and safety first instruction, yard clean ups, flag drills, etc.

Scout leaders take the utmost pains to see that scout activities do not in any way interfere with school duties, and troop meetings are regularly held on Friday evening for that reason. The best results have been obtained not by formalizing scouting, but by supplementing and vitalizing the book work by the practical activities of the scout program. Through scouting many a boy's healthy curiosity to know has been whetted, so that he comes for perhaps the first time in his life to see "sense" in books. As one school man has said, "Scouting has done what no other system yet devised has done—made the boy *want to learn*."

The National Education Association, meeting in Chicago in 1919, had a special scouting section which was particularly helpful, interesting, and conducive to closer cooperation between the scout movement and the public schools.

The department of education of the National Council is at present engaged in working out the development of a national policy governing the relations between scouting and the schools, for important and

successful as the work has hitherto been, it is believed that only the very outskirts of the possible fields of mutual helpfulness have yet been reached.

### SCOUTING AND CITIZENSHIP.

The making of good citizens is one of the chief aims of the scout movement. Everything in its program contributes directly and indirectly to this end. Every boy who associates himself with the movement is impressed with a sense of personal responsibility. If he sees a heap of rubbish that might cause a fire or collect disease-carrying germs, he is taught to report these traps to the proper authorities without delay. He is enlisted in every movement for community betterment and good health. Scouts are organized for service and have participated in hundreds of city-clean-up and city-beautiful, and "walk-rite" campaigns. They fight flies and mosquitoes and fever-carrying rats. They assist forest wardens and park commissioners in preserving and protecting trees and planting new ones. They help the police in handling traffic in crowded conditions, as in parades, fairs, etc., and work with fire departments in spreading public information as to fire prevention, as well as actively participating in cooperation with fire brigades.

All this means the making of an intelligent, alert, responsible citizenry, dedicated to being helpful to all people at all times, to keep themselves physically strong, mentally awake, morally straight, to do their duty to God and country.

### THE PIONEER SCOUT.

In order that boys who live in remote country districts may enjoy the benefits of the scout training, even though it is not possible for them to join a regular troop, the Pioneer Division of the Boy Scouts of America has been established. Pioneer Scouts follow the same program as other scouts do, taking their tests from a specially appointed local examiner, usually a teacher, pastor, or employer. On January 31, 1920, there were 758 active Pioneer Scouts on record at national headquarters. Much interest has been manifested in this branch of scouting, which has been found to fill a real need among country boys. The State agricultural departments and colleges have given generous aid and indorsement, as have also the Grange, Antituberculosis League, and other local institutions. The United States Department of Agriculture is also lending its hearty support and indorsement to this branch of scout work. The Secretary of Agriculture, the Hon. E. T. Meredith, says: "The Boy Scout program fits in with the work of the rural school, the rural church, the agricultural boys' club, and other rural welfare organizations. They should go hand in hand."

## SCOUTING AND AMERICANIZATION.

Mr. James E. West, Chief Scout Executive, makes the following statement in his tenth annual report rendered to the National Council, Boy Scouts of America:

The tremendous value of the Boy Scout movement in the Americanization problems of this country has been recognized by the division of citizenship training, Bureau of Naturalization, Department of Labor, from whom was received a request that Boy Scouts distribute letters and cards among aliens in the interest of the educational work of the division of citizenship training. A study of the indorsements of the movement by national leaders (selected from the many received) will reveal similar recognition in such quarters. Many leaders in the organization, from coast to coast, have long recognized that the Boy Scouts of America enjoy a high privilege as well as a high responsibility in truly democratizing the boyhood of this country.

The foreign-born boy and the son of foreign-born parents sit side by side with native-born boys (as they should) in our schools. They mingle in their play and in their homes. They are one boyhood. But it is a boyhood of marvelously diverse racial characteristics and tendencies. Moreover, this boyhood is the future manhood of America. And the boy inside each individual in this 8,000,000 or so of American youth instinctively responds to the Boy Scout program. As America is the melting pot of the nations, even so scouting is the melting pot of the boys of the nations.

Fortunately, the program needs no modifications or special manipulation to "Americanize" its followers. It is inherently an Americanizing program. In Manhattan's crowded East Side, since 1912, when the first scout troop was founded there, thousands of boys have taken the Scout Oath and Law and followed its principles and lived its out-of-door life. To-day there are 25 troops in New York City, numbering 800 boys. Every scoutmaster and assistant scoutmaster in the district is an ex-scout. These troops have a splendid record of war-service work, and it has been declared of them that they were the greatest single agency in operation rightly to interpret the war to their foreign-born neighbors.

The aggressive introduction of scouting into all our industrial sections, the enlistment of the men of those sections (who are eligible) as local council members, troop committeemen, scoutmasters, the fullest possible round of scouting activities for the men and the boys in this country who do not yet know America, but aspire to be her sons, will help to solve all our industrial problems and preserve our national ideals and institutions.

## SEA SCOUTING—A BRANCH OF THE BOY SCOUTS OF AMERICA.

Sea scouting is another important branch of scouting which aims to develop water scouting and nautical activities and training of all sorts. Chief Sea Scout James A. Wilder says:

Sea scouting is the way whereby scouting fulfills its obligation to the American boy to prepare him for emergencies on water as well as on land. High officials of the Navy and the merchant marine have expressed their unqualified approval of the entire program of seamanship, watermanship, cloud study, sailmaking, boats under oars and sail, shore camping, and the other fascinating activities. Our merchant marine languishes for lack of instructed seamen. It is not a far cry to the time when boys who have followed the seascout program will be

found in the four quarters of the globe, doing business on great waters because they, as sea scouts, received the same training which helped keep our flag flying on the seven seas.

During the year 1919 the sea scouting department tripled its membership and had regularly commissioned ships in 19 States. It is essentially an older-boy plan and is not a substitute for scouting but a development of it. Only boys over 15 years of age are eligible to join a sea scout ship, though a preliminary rank, that of Cabin Boy, is open to younger scouts who are able to meet certain tests in "water preparedness" and take the Sea Promise.

#### THE SEA PROMISE.

On my honor, I will, as a scout and as a cabin boy, do my best to become proficient in scouting.

1. To learn swimming and always "be prepared" to render aid to those in need in connection with water accidents.
2. To make it my practice to know the location of the life-saving devices aboard every boat I go on, and to outline mentally any responsibility in maintaining order for myself and shipmates in case of emergency.
3. To be vigilant and cautious, always guarding against water accidents.
4. To cooperate with the responsible authorities for the observance of all regulations for the conduct and safety of boats and ever seek to preserve the motto of the sea, "Women and Children First."

Like all scouting, sea scouting is both recreation and education. A sea scout has a jolly good time in the water and on it, but at the same time he is acquiring a tremendous amount of practical knowledge and nautical efficiency which will stand him in good stead whether he follows the sea or not.

#### NATIONAL COUNCIL'S ENDEAVOR TO DISCOVER VITAL FACTS IN REGARD TO THE BOYHOOD OF THE NATION.

Earnest search reveals the lack of any comprehensive and uniform data as to the youth of the Nation, although such data are absolutely essential if we are to reach every boy and assure him the educational and other opportunities to which he is entitled. At the instigation of the chief scout executive, Mr. James E. West, the National Council of the Boy Scouts of America is endeavoring to start in motion an aggressive campaign in the ascertaining and collecting of such facts. Each local council is charged with the responsibility of studying conditions in its own locality. Realizing the importance of making this study of nation-wide extension, the National Council, at its last annual meeting (March, 1920), passed the following resolution:

Whereas the National Council of the Boy Scouts of America regard it of the utmost importance that there should be available for use by the Boy Scouts of America and other organizations interested in the welfare of the youth of the Nation all possible data relating to this subject; and

Whereas investigation has proved that practically no uniform data of this sort are at present available as a basis for a thorough study of the situation and further development of their respective programs for service to the youth of our Nation:

*Resolved*, That the National Council of the Boy Scouts of America in tenth annual meeting now assembled requests that the Federal Government and the various States of the United States shall, at their earliest conveniences, through their various appropriate departments, collate and make available for our use and that of other organizations such data as will provide intelligent, efficient, and economic promotion of the program devoted to making of good citizenship, and

*Be it further resolved*, That the United States Bureau of Education, Census Bureau, and the Department of Child Welfare be especially urged to collate such data as are absolutely necessary for a thorough investigation of the problems involved; and

*Be it further resolved*, That if sufficient funds are not at the present time available for this absolutely essential purpose, the Congress of the United States and the legislatures of the various States of the Union be urged to immediately make such appropriation as may be necessary for carrying out this purpose.

#### INTERNATIONAL ASPECTS OF SCOUTING.

Scouting as a world movement was represented in the summer of 1920 by the International Scout Jamboree held at London, England, at which delegates were present from 34 of the 53 nations in which scouting is definitely established. The Boy Scouts of America were represented by a group of about 250 scouts and scout leaders representing the whole country. The gathering was most interesting and impressive in every way, and the value of the scout movement in training boys to healthful, useful activities by a program which is both educational and recreational was triumphantly demonstrated. Aside from their participation in the jamboree itself, the trip was of immense value to our own boys, as it allowed of extensive visiting of points of interest and historic association both in England and France, and in Belgium, where the delegation was reviewed by King Albert, of Belgium.

At the invitation of the American Committee for Devastated France, the National Council loaned its department of education director, Mr. Lorne W. Barclay, to be in charge of the scout camp at Compiegne, France, on the bank of the Aisne.

#### SCOUT HANDBOOKS, ORGANS, AND OTHER LITERATURE.

*Handbook for Boys*.—The Handbook for Boys continues to be increasingly in demand. Two or three printings of the book are required annually, each printing including a 1,000,000 edition, to supply the demand for what is said to be the most popular boy's book in the world. It is now in its twenty-fourth edition and is the official interpretation of the scout movement.

*Leaders' handbooks.*—The new Scoutmaster's Handbook contains a wealth of valuable material for scout leaders and other adults interested in the movement. It is prepared by experts and based upon sound pedagogical principles as well as good scouting. The new handbook for executives, called Community Boy Leadership, is now in circulation and is proving valuable.

*Magazines.*—Boy's Life, the official scout magazine for boys, is a live, wholesome, interesting publication issued monthly, containing stories and articles by well-known authors and specialists.

*Scouting*, issued monthly, is prepared especially for scout leaders not under council, while The Scout Executive, another monthly bulletin, is directed chiefly to the field under council.

*Merit Badge pamphlets.*—The editorial department of the Boy Scouts of America has prepared and edited a series of valuable pamphlets in connection with the Merit Badge subjects, which is filling a long-felt want among scouts and others interested. There are 68 different pamphlets, each written by a recognized authority in the respective subject, and each submitted before printing to a large number of experts, over 500 of whom were consulted for critical suggestion and guidance. No effort has been spared to make these booklets accurate and interesting. They contain over 3,000 pages of printed matter and over 800 illustrations, as well as valuable bibliographies and biographical matter. The pamphlets have already attracted considerable favorable notice among school men, and several colleges are placing the whole series in their reference libraries.

A classified list of the subjects for which pamphlets have been issued follows:

*I. Subjects that have to do with outdoor activities.*

- |             |                  |                 |
|-------------|------------------|-----------------|
| 1. Angling. | 6. Hiking.       | 11. Pioneering. |
| 2. Archery. | 7. Horsemanship. | 12. Seamanship. |
| 3. Camping. | 8. Marksmanship. | 13. Stalking.   |
| 4. Cooking. | 9. Pathfinding.  | 14. Swimming.   |
| 5. Cycling. | 10. Photography. |                 |

*II. Subjects that have to do with outdoor activities of a vocational nature.*

- |                 |                  |                     |
|-----------------|------------------|---------------------|
| 1. Agriculture. | 5. Conservation. | 8. Gardening.       |
| 2. Beekeeping.  | 6. Dairying.     | 9. Poultry keeping. |
| 3. Bird study.  | 7. Forestry.     | 10. Taxidermy.      |
| 4. Botany.      |                  |                     |

*III. Subjects which have to do with modern application of mechanics.*

- |                  |                 |               |
|------------------|-----------------|---------------|
| 1. Automobiling. | 3. Electricity. | 5. Signaling. |
| 2. Aviation.     | 4. Machinery.   | 6. Wireless.  |

*IV. Subjects which have to do with the preservation of health and the saving of life.*

- |                          |                     |                          |
|--------------------------|---------------------|--------------------------|
| 1. Athletics.            | 4. Firemanship.     | 7. Physical Development. |
| 2. First Aid.            | 5. Life Saving.     | 8. Public Health.        |
| 3. First Aid to Animals. | 6. Personal Health. | 9. Safety First.         |

*V. Subjects which have to do with so-called "Trades."*

- |   |   |
|---|---|
| 1. Blacksmithing.   | 4. Handicraft.  |
| 2. Carpentry.   | 5. Leather working.   |
| 3. Craftsmanship, including Crafts-<br>work in Metal, Leather, Bas-<br>ketry, Pottery, Cement, Book-<br>binding, Wood Carving. (7 sepa-<br>rate pamphlets.) | 6. Masonry.<br>7. Mining.<br>8. Plumbing.<br>9. Printing.<br>10. Surveying. |

*VI. Subjects which have to do with knowledge gained mainly from books and laboratories, under instructors.*

- |               |              |                  |
|---------------|--------------|------------------|
| 1. Astronomy. | 3. Business. | 5. Interpreting. |
| 2. Chemistry. | 4. Civics.   | 6. Scholarship.  |

*VII. Subjects which have to do with some form of art.*

- |                  |                               |               |
|------------------|-------------------------------|---------------|
| 1. Architecture. | 3. Music (including Bugling). | 5. Sculpture. |
| 2. Art.          | 4. Painting.                  |               |

*Other literature.*—The National Council also issues a large number of other informational and interpretative publications, such as the Manual of Customs and Drills, The Seascout Manual, What Every Scoutmaster Wants to Know, Scouting and the Public Schools, Your Boy and Scouting, What Scouts Do, Membership in the Boy Scouts of America, The Boy Scout Movement (as approved by the Religious Education Association), etc.

*Cooperation with publishers.*—The department during the year has maintained through its director constant contact with publishers and authors. More than 100 new books published for boys in 1919 have been carefully examined (a good many in manuscript form) for review in Boys' Life or inclusion in some one of our book lists and, of these, of the few really good books for boys published in 1919, it is a joy to report that more than half of these were first published serially in Boys' Life, a record that stands alone.

*New books edited.*—The director has edited as usual the Boy Scouts' Year Book, compiled from last year's issues of Boys' Life, the sales of which have been more than a third larger than in previous years. More notable still has been the success of the Boy Scouts' Book of Stories, a compilation of stories of interest to boys selected, one each, from the writings of our best American and English short-story writers. The purpose of the director in editing such a book was to interest boys in stories that have the quality of fine writing, and so help to develop in them a taste for literature that will make them lovers of the great and good books of all ages. The very nature of the book warranted the conclusion that it would take considerable time to make it a good seller. Once again the unexpected has happened in that the first year's sales of the Boy Scouts' Book of Stories has equaled the first year's sale of the Boy Scouts' Year Book, and the present promise is that for years to come this



book will more than hold its own. In the coming year material is being gathered for a companion volume to be published under the title the Boy Scouts' Book of Stories in Verse.

*Motion pictures for scouts.*—The director of the library department of the National Council, Mr. Franklin K. Matthews, has served as a literary adviser to a motion-picture company. As a result of this collaboration a large number of educational and scout films have been put into circulation, including the popular "Knights of the Square Table," by Chief Seascout James A. Wilder. It is believed that these films offer splendid opportunities not only to show the educational possibilities of the scout movement but also to interest and instruct the public in the joys and benefits of outdoor life, the necessity for safety first and fire-prevention measures, and other features which are accentuated by the scout program. The films can also be admirably used in connection with the Americanization movement.



DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1921, No. 42

# TEACHER PLACEMENT BY PUBLIC AGENCIES

By J. F. ABEL  
SPECIALIST IN RURAL EDUCATION  
BUREAU OF EDUCATION

[Advance Sheets from the Biennial Survey of Education  
in the United States, 1918-1920]



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1921

# TEACHER PLACEMENT BY PUBLIC AGENCIES.

By J. F. ABEL,

*Specialist in Rural Education, Bureau of Education.*

**CONTENTS.**—Difficulties in filling teacher positions—Appointment committees as service organizations—Demand much greater than supply—Methods in placement work—Special policies—Follow-up work—Bureaus in State offices—National placement bureaus—School board service.

## DIFFICULTIES IN FILLING TEACHING POSITIONS.

For the biennium ending June 30, 1920, filling educational positions of all kinds assumed an importance scarcely thought of in previous years. Not enough even of untrained, inexperienced persons could be secured at any time during the two years to fill the teaching places of the country. The number—always too small—of trained, experienced workers who were willing to stay in the profession was greatly reduced. Military service took the best of the younger men teachers; governmental services newly initiated or greatly expanded to meet war-time needs called away the more active and progressive women; the Young Men's Christian Association, Knights of Columbus, Red Cross, other relief organizations, and the scientific and technical branches of the varied war industries drew heavily from the ranks of principals, superintendents, and college faculties; the business world found remunerative places for educators; and the creeping slowness with which teachers' salaries were advanced to meet the increasing cost of living drove many to try other lines of work. In September of 1918 there was a shortage of 50,000 teachers, and 122,000 inexperienced ones were entering the field. Approximately 10 out of every 45 of all the teaching places were either vacant or filled by new people. The shortage increased throughout the period. Fewer students took courses in education, the annual output of graduates from the colleges of education and the normal schools was decreased and campaigns to reenlist former workers were not markedly successful. In June of 1920 there was no apparent way of securing the 15,350 high-school teachers necessary to complement the force for secondary instruction.

## APPOINTMENT COMMITTEES AS SERVICE ORGANIZATIONS.

This situation changed the attitude of the board of recommendation, appointment committees, placement bureaus, or other organizations in higher educational institutions and State departments designed to serve as clearing houses for positions and workers. From

being bodies whose chief function was to help young people secure positions, they became service organizations to help fill the schools with workers. In June of 1920 reports were received at the Bureau of Education from 260 institutions, representing 120 smaller colleges, 19 larger universities, 23 State universities, 25 technical schools, 55 State and private normal schools, 7 county normals, and 11 city normals. Below is a tabulation of the returns:

*Requests for teacher positions—Number of places filled.*

Institutions reporting.	Number of schools reporting.	Number that have an organization for placing teachers.	Number that have no such formal organization.	Number that kept records of placement work.	Requests received for nominations to fill vacancies.	Positions reported to have been filled.	Number of registrations with placement organizations.
Smaller colleges.....	120	74	46	47	8,040	1,979	2,121
Larger universities.....	19	19	.....	15	15,126	2,550	3,594
State universities.....	23	23	.....	14	13,280	3,025	9,702
Technical schools.....	25	15	10	6	1,695	387	375
Normal schools.....	55	41	14	29	13,571	4,260	4,644
County normals.....	7	.....	.....	.....	.....	.....	.....
City normals.....	11	.....	.....	.....	.....	.....	.....
Total.....	260	172	70	111	51,712	12,196	20,437

**DEMAND MUCH GREATER THAN SUPPLY.**

Without exception all of the 260 institutions that reported to the bureau indicate that the requests for teachers were far in excess of the supply available for placement. The 46 smaller colleges and 14 normals that have no formal placement organizations report all of their available people taken so quickly as to make bureaus unnecessary. The 10 technical schools report that none of their graduates cared to teach. County and city normals are as a rule parts of a larger administrative system, and their output is immediately taken over by the system. Sixty-one of the institutions reporting did not keep records of their placement work. Usually those were cases in which it was the part-time duty of some already overworked person or committee. The number of positions reported to have been filled is much less than the number that actually was filled. School boards and registrants alike are prompt to express dissatisfaction but singularly neglectful about reporting successful placements. Boards may and often do ask several institutions to make nominations for the same position or positions, so there is undoubtedly embodied in the 51,712 requests a considerable number of duplications. This is easily offset by the fact that many of the requests were for more than one teacher—a fact noted but the figures not given by the persons reporting—and that large numbers of requests came to those schools that kept no record. An estimate of three times as many requests as registrations is conservative.

### METHODS IN PLACEMENT WORK.

While placement work is handled in many different ways in the different institutions, in some of the larger schools it is provided for in the regular budget and has taken on the character of a high-class professional service. In most of these the plan of operation and the policies followed are fairly uniform. The bureaus are organized for and deal primarily with the students, alumni, and graduates of the school in which the bureau is located. As a rule there is no charge for the service. If there are fees, the amount is small and may be merely to cover the cost of postage and typing. A statement of the registrant's personal characteristics, his experience, and a list of references are required from him. From his instructors and professors estimates of his work and ability are obtained. These written estimates are held to be strictly confidential, are sometimes required to be couched in moderate terms, and to apply only to those things about the registrant of which the writer is directly informed. General letters of recommendation are not as a rule accepted. No schools have reported the use of intelligence tests or intelligence ratings in placement work. The institutions do not recommend, and many of them send out credentials only at the request of school officials. Sometimes the papers of several persons are submitted. Usually but one nomination is made. In general the purpose of the bureau is to give board and registrant a knowledge of each other and leave them to work out their own arrangements.

### SPECIAL POLICIES.

Apart from the general policies of placement adopted and followed by most schools, certain ones are following unusual lines much of the time, and many did special work during the war. One of the larger normals discouraged any tendency on the part of its graduates to accept positions that would group any great number of them in any one city, town, or county; tried to distribute its supply of trained people fairly equally and widely over the State; divided its graduates into three salary classes and advised each to ask for the salary of the class in which she was placed, and requested that all seniors make no teaching contracts until after Easter, in order that during the process of salary readjustment the seniors would not come in competition with older experienced teachers. It also made a special effort to supply teachers to those schools from which it was receiving students.

Many bureaus registered nongraduates and graduates of other schools. While this was primarily to meet the emergency and was sometimes accompanied by a refusal to make nominations for positions in other States and sometimes even in the territory within the

State not usually served by the school, there is still a definite desire on the part of a number of institutions to arrange some plan of exchange of registrants' credentials with other institutions of the State or those of other States. There is no national organization of placement officers; and no general scheme of interchange, however desirable it may be, has been effected.

Institutional placement bureaus charge no commission; so they are not tempted to try to fill a large number of positions for commercial reasons. Their success lies not in placing many teachers—for the last two years the number they placed was limited only by the number of registrants—but in so placing the trained minds with which they deal that the largest amount of effective service will be rendered by satisfied workers. They recognize that to learn the needs of positions and to fill those positions with the persons best fitted for them is a high grade of professional service. In order that the bureau may be free to carry out its work, some schools require that no recommendations shall be made by any member of the faculty except such as are made through the appointment committee. Others require that registrants send out a very limited number of applications and either inform the bureau of any sent or gain its consent before sending. Most placement bureaus are studying carefully the needs of the territory they attempt to supply. A western normal that graduates students on the first of nearly every month has had an appointment bureau in operation for nearly 20 years. By experience and careful study the bureau has grown to know the needs of every section of its territory. There are few unsatisfactory placements by that school.

#### FOLLOW-UP WORK.

A number of institutions, after having made a placement, do definite follow-up work. Others recognize the great value of such work and would do it if the means were available. One institution undertakes to keep in touch with its graduates during their first three years of service. Others attempt to keep files of the higher grades of positions and to assist in promoting their successful alumnae to such places. A western agricultural college sends out a worker to visit and help all of its people who are doing their first year of teaching. Another middle west institution helps its graduates to get located in teaching positions, then secures yearly reports from supervising officials on the quality of the work done, and if possible attempts through visitation to become acquainted with the character of the institution in which the work is being done. Whenever an adverse report on the professional reputation or efficiency of a graduate is sent in, a friendly visit is made to ascertain the situation, the cause, and the remedy. Sometimes the college does not agree with the adverse report of the supervising official.

### BUREAUS IN STATE OFFICES.

Bureaus of teacher placement have been organized in connection with the State offices of education in 16 of the States. Of these, 10 are authorized by legislative act, 5 on the authority of the State superintendent of public instruction, and 1 by the State board of regents. In 15 other States the work is handled at the office of the State superintendent in an informal way and as a matter of personal accommodation. In 17 States nothing is attempted along this line. Legislation for the work increased somewhat after the United States entered the World War. The work in Massachusetts was authorized in 1911; in Minnesota in 1913; in New Hampshire in 1915; in Maine, South Dakota, and Wyoming in 1917; in South Carolina in 1918; and in Iowa, Oklahoma, and Alabama in 1919.

The Massachusetts State teachers' registration bureau became operative in 1912. It acts as a State clearing house for teachers. Minnesota, Iowa, South Carolina, and Alabama are also working toward effective State clearance in their organizations. Minnesota reports the largest number of placements, 773 teachers having been placed in 1919.

The great hindrance to the development of the work in the State offices is reported as the lack of funds. Registration fees are authorized in seven States, but with the exception of Minnesota, where it is \$3 a year, the fees are too low to be of material aid. In nearly every case the legislative act carries little or no appropriation, and the work is added to that of the regular office staff.

### NATIONAL PLACEMENT BUREAUS.

Nationally both the Department of Labor and the Bureau of Education have undertaken to do teacher-placement work. In September of 1918 the teacher shortage was called to the attention of President Wilson, and he allotted to the bureau from the fund for national security and defense \$25,000 to be used for establishing and maintaining a School Board Service Division to assist school officers throughout the country in obtaining teachers. The committee on education and special training of the War Department had already asked for assistance in getting qualified instructors for the Students' Army Training Corps units.

### SCHOOL-BOARD SERVICE.

Early in October the commissioner announced the establishment of the division for the purpose of assisting officers of education in finding teachers for colleges, normal schools, and technical schools, superintendents and principals of schools, and teachers and supervisors of special subjects in secondary and elementary schools—such

teachers as are usually sought and obtained from the country at large rather than from the communities in which the schools are located. He asked that educational institutions send in lists of former graduates, those about to graduate, former faculty members, and the names of any persons who were capable of teaching and who might be induced to take up the work. The aim was to use to the best advantage the available teaching corps and to call into the profession as a patriotic duty all who could be of use. Wide newspaper publicity was given to a campaign to keep the schools open and to the work of the division as a help in attaining that end.

Registrations and requests for nominations began promptly. By February 1, 1919, the names of 3,500 teachers had been received. The division had made nominations to 1,100 positions in high schools, colleges, and universities, and to 400 or more grade and rural schools. In addition to maintaining a list of workers immediately available, the bureau undertook a directory of men and women who were satisfactorily placed and did not wish to have their names used as candidates for other places.

The abrupt termination of hostilities in November, and the consequent beginning of demobilization, made it seem possible that many of the returning soldiers could be secured for teaching places. The especially well-selected and well-trained group of young psychologists, some 300 in number, who were released in December and January, were registered with the bureau and the attention of superintendents in larger cities was called to the unusual opportunity to establish departments of psychology and research. The bureau attempted to arrange with The Adjutant General's Office a plan for placing discharged soldiers who were fitted to teach. The attempt was not successful.

The School Board Service Division continued its work until July 1, 1919. On that date the fund for national security and defense ceased to exist as such, and Congress has not appropriated any funds for teacher register work. The division was then closed. During this period of its existence School Board Service had carried on a strong publicity campaign to mobilize the teaching force of the country, had thoroughly canvassed the schools to determine their needs, had secured the names of 13,000 teachers ready for active duty and of 6,000 for a directory, and had made 15,000 or more nominations for positions. On October of 1919 Congress gave a deficiency appropriation of \$5,000 to continue the work. After the division had been dormant for five months it was reopened with a smaller force of workers.

Of course the lists of names were more or less out of date, so it was necessary to announce the reopening of the division and to send



to each of the 13,000 active registrants a letter asking for information as to his desire or ability to teach. To this letter the division received 5,000 replies. Part of the falling off in the number of registrants was probably due to lack of confidence caused by the first closing of the division and to less extended publicity, but much of it was unquestionably due to an increasing shortage of teachers.

As soon as a fair return of registrations was received the division announced to colleges, universities, and high schools that it was open and ready for service. The colleges and universities took but little advantage of the offer. The high schools made requests for teachers of all kinds at an average of at least 175 a day. The lowest number asked for in any one day was 25, the highest 436. Teachers of domestic science, manual training, and agriculture were in special demand. The names of all the active registrants of the division were sent out numbers of times in three or four weeks. Congress again refused appropriations, and on July 1, 1920, the work of the division ceased for a second time.

The rather incomplete sketch of teacher placement by public organizations makes it clear that the work is a necessary and very important service. The policies that must be followed in order to bring about the best results have been fairly well established by experience. The bureaus engaged in it need to be more closely coordinated and methods of exchange of credentials, evaluation of certificates, and standardization of credits need to be provided.

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BUREAU OF EDUCATION

BULLETIN, 1921, No. 43

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# BUSINESS TRAINING AND COMMERCIAL EDUCATION

By

GLEN LEVIN SWIGGETT

SPECIALIST IN COMMERCIAL EDUCATION  
BUREAU OF EDUCATION

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[Advance Sheets from the Biennial Survey of Education  
in the United States, 1918-1920]



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# BUSINESS TRAINING AND COMMERCIAL EDUCATION.

By GLEN LEVIN SWIGGETT,

*Specialist in Commercial Education, Bureau of Education.*

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CONTENTS.—New developments—Training and education—Recent surveys—Training in retail selling—Commercial teacher training—Foreign service training—Foreign trade training survey—Commercial engineering—Related activities of Federal bureaus.

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## INTRODUCTION.

The period of participation of the United States in the recent war witnessed a revival of interest in training for business with a consequent experimentation in all types and grades of schools, as well as through nonschool agencies, governmental and otherwise. A survey of this field for the two years ending June 30, 1920, reveals an interest even greater than that of the preceding two years for traditional schools, but indicates a subsidence of interest and discontinuance of experimental effort on the part of some nonschool agencies, particularly branches of the Federal Government.

Three recent foundations present new developments. They have their inception in the definite belief that training will lead to a larger and more practical application of pertinent principles of the economics of business to the specific problems of one or more of the major factors in industry and commerce. These new foundations are: Trade-union colleges; the Industrial University of the Goodyear Tire & Rubber Co., with teaching staff of 117, a student enrollment of 6,200, and a course of study to include economics, corporation organization, industrial management, finance, bookkeeping and accountancy, costs and statistics, commercial geography, and economic history; and the announcement<sup>1</sup> that plans are under way for the establishment by the National Association of Corporation Schools of an industrial and commercial university for the purpose of making investigations and conducting courses to train efficient executives in all departments of the field of personnel relations in industrial and commercial life.

## TRAINING AND EDUCATION.

In any consideration of accomplishment and tendencies in the development of this phase of educational preparation it is always well to keep in mind a real difference between training and education, particularly since no other type of educational preparation has given such confusion of terms with respect to the content, method, and

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<sup>1</sup> Compare Bulletin for Oct. 15, 1919, by the National Association of Corporation Schools.

purpose or object of study. This is due in a large measure to the fact that business training came as a late entrant to high school and college. The period of readjustment in accord with the established academic procedure in respect to admissions and graduations was and is coincident with a period of industrial and commercial expansion, the course of which has not always been under economic control. Sensing the economic gain to ensue through the correlation of training for and actual conduct of business, business educators and business men have endeavored in larger numbers and throughout a larger territory than ever before to obtain a program of coordinated educational opportunity and business need which would give to business a natural movement of supply from the schools of boys and girls, men and women, efficiently trained for the enlarging definite and specific tasks of business.

The motive of this approach has been cordial but not always timely, and has sometimes been ill-advised. Always the latter when the fundamental purpose of the public schools in a democracy has not been kept clearly a guiding principle in the establishment of special training courses. The division of labor in the field of distribution has not always been apparent as in that of production. The unit cost in marketing involves factors yet intangible. It is therefore difficult, involving uncertainty and change, to functionalize business training courses the major, nay the sole, purpose of which is to train for specific tasks of business. Experimentation, therefore, in this special field of educational endeavor is more evident in vocational business training than in the broader and more general aspects of liberal commercial education.

And this is rightly so. We live in an economic era. Inter and intra national affairs are largely determined by economic advantages, and these are in a large degree conditioned by the magnitude of scale and measure of efficiency in management of industry and commerce. The need of constantly improved methods for increased production and salvage, in transportation, marketing, and financing, no matter in what field of development, has never been more apparent. Nor has there ever been a greater need for trained labor, whether of head or hand. The consciousness of this need has given to business education a position of commanding interest in business as well as in education. Commercial organizations, National, State, and local, place increasing emphasis on training and education for business and commerce. Programs in training for special types of business service similar in purpose and procedure to that of the American Institute of Banking have been developed and extended by other organized business service groups, for example, the National Association of Credit Men has planned a course of study to be offered by co-operative arrangement in the larger urban universities.

The schools of commerce and business administration of the larger universities cooperate largely in this novel development in the field of business education. In institutions of this type the work has passed successfully the period of experimentation and suggests a direction which may ultimately be taken by vocational training of secondary years. Cooperation of school agencies is secured, but interested business of special service assumes a large measure of initiative, direction, and financial responsibility. The assured success, however, of instruction of this character, if a permanent gain to business is to result, is conditioned by the anterior education of the student.

It is at this point that one must hold fast to the fundamental difference between training for business and education for business or commerce in the organization and administration of commercial education. Education for commerce is commercial education. It deals with principles and laws that govern commerce; possesses a body of information that may rightly be called the culture of business; and gives the technique necessary in management of business, simple or complex. It requires years in preparation, whether for domestic or foreign trade; would defer specialization; and implies a reasonable measure of standardization and sequence of courses in educational practice. On the other hand, one can begin vocational business training in the schools whenever the maturity of the student permits training for the job which is at hand. In this respect the commercial trades are not unlike the industrial trades. The only difference is in how much of this kind of training shall the schools carry and how much shall be left to business itself.

This question naturally arises whenever the basic difference between training and education is understood. The insistence upon an answer to the question is becoming increasingly apparent in discussions on commercial education.

Four recent publications in particular call for more than passing mention in this connection, namely, "Business Education in Secondary Schools,"<sup>1</sup> a report of the commission on the reorganization of secondary education appointed by the National Education Association; "A Survey of Commercial Education in the Public High Schools of the United States,"<sup>2</sup> by Leverett S. Lyon; "Commercial Education, Organization, and Administration,"<sup>3</sup> issued by the Federal Board for Vocational Education; and "The Relation of the Collegiate School of Business to the Secondary School System,"<sup>4</sup> a discussion by Dean L. C. Marshall, of the University of Chicago, and

<sup>1</sup> Bull., 1919, No. 55, Dept. of Interior, Bur. of Educ.

<sup>2</sup> Dept. of Educ., Univ. of Chicago, 1919.

<sup>3</sup> Bull. No. 34, Commercial Series No. 3, Fed. Bd. for Voca. Educ.

<sup>4</sup> Jour. of Polit. Economy, Vol. XXVIII, No. 2, Feb., 1920.

others. These recent contributions to the subject of commercial education indicate division in thought that can not be ignored. In respect to the position we take, we define the purpose of commercial education and can perhaps delimit the sphere and scope of business training. If so, we secure common thinking and common action with seemingly disparate groups.

The aim of business training is definite and specific. That of commercial education is of wide range and may even at first glance seem purposeless in its effort to educate broadly for the understanding of social phenomena and economic management. The element of time is a determining factor in the difference of aim and must condition the when, what, and where of business training and commercial education. For example, admitting the principle underlying the report made by the committee in Bulletin No. 55 above mentioned, two members of the review committee objected to the limited amount of time given to social study and community civics, in which objection the report of Dean Marshall would strongly concur. The latter report ably defends the thesis that business education must give competence in social relationships as well as technical competence and develops successively from the seventh grade through social science studies opportunity for the enlarging grasp on the part of the student of the individual's economic and social functioning in organized economic society. The Association of Collegiate Schools of Business has appointed a commission to correlate, after a suitable survey, secondary and college business education somewhat along the lines of Dean Marshall's report.

It would seem that the program of the association would lessen greatly the demand for commercial occupational surveys, although opportunity will be fully allowed for commercial electives to meet known vocational needs. The demand for surveys of this character, however, continues strong, although within the past two years no report of the significance of the Cleveland survey has been published.

#### RECENT SURVEYS.

The belief persists that known business needs permit and lead to localization and specialization in type, method, and content of business education. Surveys, both general and particular, are being carried on with local cooperation by the two Federal agencies. The survey of outstanding importance of the Federal Board for Vocational Education is the commercial occupational survey of some 20 type cities. The survey<sup>5</sup> was carried on through the State directors of vocational education in 16 States having a continuation school

<sup>5</sup> Survey of junior commercial occupations. Bull. No. 54 Com. Educ. Series No. 4 of Fed. Bd. for Voca. Educ.

law. There are 22 such States. Based on job analyses of the junior commercial trades, direct training through 26 elementary business-training courses is suggested as possible. The division of commercial education of the Bureau of Education has planned with regional co-operation to ascertain within each region by investigation and survey the natural economic advantages for industrial and commercial development; with the resulting major types of productive and distributive business for which pertinent courses of study adequate to meet the progressive needs of these major types of business shall be constructed and introduced into schools and colleges.

Special mention should be given of the survey of New Brunswick, N. J., in the spring of 1919. The bureau's specialist in commercial education assisted with this survey. Secondary education in New Brunswick is on the three-three plan. Therefore the purposes and opportunities of the coordinating junior and senior high schools had to be considered in relation to independent as well as complementary functions of local business in recommending a suitable course of study. The survey was conducted in the usual manner. From the results secured, business training study groups, prematurely differentiated, seemed ill advised. The immediate problem, therefore, was to formulate for these two high schools an articulated course of study in preparation for general business with such emphasis upon the essentials and background of business in the junior high school as will both satisfy local business needs and encourage and equip all students who may wish to continue their studies in the higher schools.

The proposed course of study follows, with comment:

### JUNIOR HIGH SCHOOL.

#### SEVENTH AND EIGHTH GRADES (FOR ALL STUDENTS).

<i>First half.</i>		<i>Second half.</i>	
Subjects.	Periods per week.	Subjects.	Periods per week.
1. English-----	5	1 and 2. English and arithmetic-----	5
2. Arithmetic-----	5	2. Commercial products and science--	5
3. History and geography (U. S.)----	8	3. History and geography (U. S.)----	8
4. Foreign language-----	5	4. Foreign language-----	5
5. Physical training (3) and music (1)-----	4	5. Physical training (3) and music (1)-----	4
6. Industrial and household arts (in- cluding drawing)-----	4	6. Industrial and household arts (in- cluding drawing)-----	4
7. Citizenship-----	2	7. Citizenship-----	2

COMMENT.—In the eighth grade the course in history and geography will treat of modern Europe. It is urged that citizenship be given under proper direction and supervision, with regular tests during two assembly periods to the entire junior high school. The subject should be likewise presented for the same number of hours to all students in the senior high school during the senior assembly. The combination of English and arithmetic in the second half year is especially urged. While this plan may seem at first novel and radical, the many advantages to the subject, the student, and business in general warrant



at least a careful trial. With the exception of college-entrance students beginning algebra in the ninth grade, it is suggested that this combination of English and arithmetic in the second half of the school year be tried for the seventh, eighth, and ninth grades. Especial attention is called to the suggested treatment of elementary science in connection with commercial products. This plan affords the best possible treatment for the introduction of the industrial applications of science and vitally motivates at the same time the courses in history and geography.

## NINTH GRADE.

<i>First Half.</i>		<i>Second Half.</i>	
Subjects.	Periods per week.	Subjects.	Periods per week.
1. English-----	5	1 and 2. English and Arithmetic-----	5
2. Arithmetic-----	5	2. Commercial Products and Science--	5
3. History and Geography (Latin America)-----	8	3. History and Geography (Latin America)-----	8
4. Modern Language-----	5	4. Modern Language-----	5
5. Physical Training (3) Music (1) Drawing (2)-----	6	5. Physical Training (3) Music (1) Drawing (2)-----	6
6. Citizenship-----	2	6. Citizenship-----	2
7. Typewriting-----	5	7. Typewriting-----	5

COMMENT.—In this grade there is some emphasis on differentiation in the direction of business training. As stated above, college entrance students will, for the present, substitute algebra for arithmetic. Vocational students will substitute industry and household arts for typewriting.

## SENIOR HIGH SCHOOL.

## TENTH GRADE.

*First Half.*

Subjects.	Periods per week.	Subjects.	Periods per week.
1. Business English and Correspondence-----	5	4. Modern Language-----	5
2. Elementary Bookkeeping-----	5	5. Typewriting and Office Practice--	5
3. Industrial History of the United States-----	3	6. Physical Training-----	3
		7. Citizenship-----	2

COMMENT.—The above course of study for first half of tenth grade is repeated without change in the second half.

## ELEVENTH GRADE.

*First Half.*

Subjects.	Periods per week.	Subjects.	Periods per week.
1. Business English and Correspondence-----	5	Elect two of the following:	
2. Commercial Arithmetic-----	2	Modern Language-----	5
3. History of Commerce-----	2	Stenography-----	5
4. Science-----	3	Advanced Bookkeeping-----	5
5. Physical Training-----	3	Salesmanship-----	5
6. Citizenship-----	2		

The foregoing course of study for first half of eleventh grade is repeated without change in the second half. For the present, salesmanship is not to be offered as an elective in the junior year. As soon, however, as the local situation warrants, this subject is to be considered and offered as a study project like stenography and bookkeeping. In the eleventh and twelfth grades all written work should be submitted in typewritten form.

## TWELFTH GRADE.

*First Half.*

Subjects.	Periods per week.	Subjects.	Periods per week.
1. Business English and Correspondence-----	3	Elect two of the following:	
2. Commercial Arithmetic-----	2	Modern Language-----	5
3. Modern Economic History-----	3	Economics of Business and Business Organization-----	5
4. Commercial Law-----	2	Stenography-----	5
5. Science-----	3	Salesmanship-----	5
6. Physical Training-----	3		
7. Citizenship-----	2		

COMMENT.—The foregoing course of study for first half of twelfth grade is repeated without change in the second half.

A large number of colleges and universities have established recently separate schools of commerce, business administration, etc. No period has been more marked in this respect than that of the last two years. This is particularly true in the Southern and Central States. It is gratifying, further, to note that in these more recent establishments there is evidence of a desire to build the courses around two fairly well-established university majors, namely, accountancy and business organization and management. The diversity of opinion in respect to the educational value of stenography and typewriting, both for admission and graduation credits, still retards the development of a course in secretarial practice of college grade. Nevertheless, there has been marked development in the latter special career-training course. The smaller colleges with training courses of the better business college type, for men as well as for women, but particularly the latter, begin to react to the principle of direct training in the arrangement and sequence of courses in the commercial departments, as they are usually called, attached with large measure of autonomy to their preparatory schools or included within the college proper. The one and two-year emergency or war-time courses, prepared and sent by the commercial education division of the Bureau of Education for use largely in institutions of this type, have been of great help to the smaller colleges for women.

**TRAINING IN RETAIL SELLING.**

Another marked tendency in direct training with the development of a pertinent functional group is that of retail selling. Very nearly every type of educational agency has been affected. Impetus has been given to this development by the program and special effort of the Federal Board for Vocational Education and the National Society for Vocational Education.

The need for instruction of this character was especially emphasized by Supt. F. V. Thompson, of the Boston city schools, in the

report on commercial education for the Biennial Survey 1916-1918, of the Bureau of Education. It is also given full recognition by the committee on business education as one of three high-school curricula, namely, general business and bookkeeping, stenography and presecretarial, and retail selling and store service.

The need for teachers of retail selling became quite early apparent in the establishment of this course. Naturally urban universities have responded first to this need. Carnegie Institute of Technology inaugurated in October, 1918, a training course for personnel assistants in stores and teachers of retailing as part of a larger program for the intensive study of human relations in industry and business. Cincinnati and New York Universities have since followed with courses somewhat dissimilar in plan of organization and method of instruction. The three types, however, present features in common which may lead to common procedure in the early future in the extension of this type of training for store service and teaching of the same. Subjects of instruction naturally common to these teacher-training courses are store organization and management, technique of selling, and merchandise information. The significant difference in the three types of training here mentioned is due doubtless to the variety of major purpose that consciously has underlain the planning of these courses, namely, preparation of high-school teachers, directors of sales of department stores and other business, and research sales specialists—a threefold obvious need.

#### COMMERCIAL TEACHER TRAINING.

The need for teachers in business training and commercial education subjects becomes increasingly more apparent to school officials as the type and scope of instruction to be given in schools and colleges in preparation for business and commerce become more and more fixed. An inquiry in respect to the training of secondary commercial teachers sent by this division of the bureau in March, 1919, to higher institutions, including public and private normals, revealed the fact that scarcely any attention was being given throughout the United States to commercial teacher training. For example, among the larger universities, including State universities with a school of commerce, courses were only reported at the following institutions: Chicago University, University of Illinois, Simmons College, University of Minnesota, University of Nebraska, College of the City of New York, New York University, University of North Dakota, University of Oklahoma, Oregon Agricultural College, University of Oregon, Temple University, Carnegie Institute of Technology, University of Pittsburgh, the University of Utah, and the State Teachers' College of Colorado, Iowa State Teachers' College, New York

State College for Teachers, and the three Ohio institutions in Ada, Athens, and Miami. The catalogues of similar institutions of this type, however, announce this work as already or about to be established: University of Arkansas, the University of Southern California, University of California, including the southern branch at Los Angeles; Florida State College for Women, Georgia School of Technology, University of Idaho, University of Indiana, University of Iowa, Iowa State College of Agriculture and Mechanic Arts, University of Kansas, University of Louisville, Boston University, Harvard University, University of Montana, University of Nevada, Columbia University, Syracuse University, University of North Carolina, North Dakota Agricultural College, University of Cincinnati, University of Pennsylvania, University of South Carolina, University of Washington, and the University of Wisconsin.

Public normal schools to report commercial training in response to the inquiry of March, 1919, were those of Tempe, Ariz.; Willimantic, Conn.; Carbondale and Normal, Ill.; Emporia and Pittsburg, Kans.; Richmond, Ky.; Salem, Mass.; Kalamazoo and Ypsilanti, Mich.; Cape Girardeau, Warrensburg, and the Harris Teachers College of St. Louis, Mo.; Kearney, Peru, and Wayne, Nebr.; Keene and Plymouth, N. H.; Plattsburg, N. Y.; Valley City, N. Dak.; Cleveland, Ohio; Alva, Okla.; Indiana, Mansfield, and Slippery Rock, Pa.; Cheney, Wash.; Shephardstown, W. Va.; and White-water, Wis. A course in commercial teacher training has been planned or introduced at the normal schools located in Mount Pleasant, Mich.; Trenton, N. J.; Canyon, Commerce, Huntsville, and San Marcos, Tex.; and Fredericksburg, Va.

It will thus be seen that it was impossible to receive training for the teaching of secondary school subjects in preparation for business and commerce at the close of the school year, as reported in the following States: Alabama, Arkansas, Delaware, Louisiana, Maine, Maryland, Mississippi, Nevada, New Mexico, Rhode Island, South Carolina, Tennessee, Vermont, and Wyoming.

Commercial teacher training by intensive courses in subject matter, as well as in methods, is being encouraged and will doubtless be rapidly extended. Mention should be made of the recently established summer school instruction at the University of California, University of Virginia, and the Public Normal at Oswego, N. Y.

#### FOREIGN SERVICE TRAINING.

The two years just elapsed have seen marked development in interest for special training for foreign service, particularly commercial. In addition to the group sessions devoted to this topic at the annual convention of the National Foreign Trade Council, other

national organizations, notably the American Manufacturers Export Association, have set aside special educational sessions on the programs of their annual meetings. The United States Chamber of Commerce has likewise begun to consider foreign trade at sectional meetings, in which training naturally is emphasized. The opportunity for instruction in foreign trade, from the short lecture course, with or without serious study, to the university major has been widely extended. Several private business schools now offer instruction in foreign trade. The Bureau of Education reported not a single high school in the larger cities giving foreign-trade instruction for the school year ending June, 1917. Since that date several cities have introduced the subject, following Boston's lead. There is yet a great diversity in treatment, qualitative as well as quantitative. In the New York High School of Commerce it is given full treatment as one of the nine career study groups. With increasing need for this kind of instruction manifest among the better private business schools, it is to be expected that a course in training similar to that now given at the Butler School of Commerce in San Francisco will be offered.

The most hopeful outlook for this special kind of training is to be found within the colleges and universities, several of which, notably urban universities, have greatly expanded their course in training for foreign service. This is true not only of higher institutions in large port cities, where it is naturally to be expected, but inland institutions with their newly established schools or departments of commerce or business administration are now offering foreign trade by group treatment. Special mention should be made of the increased opportunity for instruction now offered at the Nation's capital in the supplementary schools of Georgetown University and the American University; and of the marked departure in the establishment in October, 1920, of a branch of Boston University in Habana, Cuba. The courses of the Habana Institution will parallel those given in Boston and lead to the same degree, bachelor of business administration. Of special interest to students who are preparing for a career in foreign commerce is the fact that students may begin their course of training in one branch and complete it in the other.

#### FOREIGN TRADE TRAINING SURVEY.

This division of the bureau cooperated with the Association of Urban Universities and the Committee of Fifteen on Educational Preparation for Foreign Service in making a field survey of the character and the extent of foreign trade in a few major cities in order to determine whether and how schools and colleges can train for foreign trade. The investigation in each city was carried on by a competent group of local educators and business experts.

In the conduct of the survey there was naturally a wide variety of practice in the selected cities. Difficulties were encountered peculiar to this novel field. The survey inaugurated a new type of cooperative service of Government, business, and the schools, and should serve as a model for subsequent surveys of similar purpose to be carried on by the same or by other agencies.

The survey was twofold in character: To ascertain the character and volume of foreign trade in a particular city and local needs for trained employees in home and foreign field; and to ascertain the educational opportunities in schools of all types and grades for supplying this trained service. On the basis of dependable information furnished by this investigation the local cooperating committees would recommend study courses and give expert counsel to school authorities helpful in enabling the schools progressively to meet local business needs for a foreign trade personnel.

Fifteen cities were included in this major survey. Twelve cities have completed the work to be undertaken, have reported their findings to this bureau, and have carried out in varying degree the measures to be recommended. A brief report upon the survey as a whole will be shortly published. One may anticipate, however, at this time the published report by stating the following conclusions serviceable in constructing foreign trade training programs:

*A. For the Export Manufacturer.* (1) A great majority of business men in all cities prefer that their foreign trade employees have at least secondary school training, and it is significant to note the large number to require college training as a requisite for employment. There has been marked advance in this respect since the investigation made five years ago by the educational committee of the National Foreign Trade Council. (2) Direct exporting is the favored plan in six, and of equal rank in three other cities. This information should be of the greatest help in determining the character and extent of foreign trade training, since it safely predicts a basis of permanency for the foreign trade of this country. (3) The survey indicates the increasing participation of women in foreign trade service, still largely routine in character, however. (4) In the division or classification of service performed the selling service leads, with shipping a close second.

*B. For the Export Merchant and Commission House.* (1) The survey indicates that the demand for this type of service was not decreasing at the time of the survey. (2) Latin America and the Far East are the special trade spheres. (3) Spanish and French are the languages of correspondence. (4) Knowledge of purchasing is an essential. (5) High-school training is considered sufficient for employment.

C. *Forwarding Agents.* The survey shows a preference for Americans taken from high schools without further training than that given in the actual conduct of the business. It would seem, therefore, that it might be well within the province of the high schools to restrict their vocational foreign trade training to this type of service.

D. *Bank and Credit Institutions.* (1) The survey reports no difficulty in finding employees for home service. (2) The percentage of women employed is large in the reporting cities, 31 per cent in Chicago and 28 per cent in New York. (3) Training in actual business is preferred with the exception of New York, where preference for a cooperative plan is expressed. (4) Continuation training is carried on to a very marked degree in all cities except those on the West Coast.

The published report on this survey will give results by cities. From the foregoing, however, can be made the following summary: For service in sales and management the need for college training based upon previous secondary preparation is increasing; in training for special service, more or less routine in character, the secondary schools have and will continue to have a large part to play as these special services become more and more definite.

In the meantime even greater experimentation in training is to be expected. It is hopeful to note, however, the increasing number of institutions to establish their foreign trade training upon the basis of careful preparation to include the knowledge of markets, technique of marketing, and the ability to use the languages of these markets.

### COMMERCIAL ENGINEERING.

There has been gratifying response on the part of higher institutions to the recommendations of the committee conference of June 23-24, 1919, on business training for engineers and engineering training for students of business, organized by this division of the bureau in cooperation with a committee of engineering and commerce education experts appointed by the Commissioner of Education. The report of this conference has been published as Bureau of Education Bulletin, 1919, No. 58.

The resolutions of this conference called attention to the demand for men with combined technical engineering and business training, and recommended that students in commercial courses be given opportunity to take special courses in the basic principles and practices of engineering; that the economic phases of engineering subjects be emphasized for engineering students; and that there be developed a coordinated program in engineering and commerce which will give to the graduate practical training in modern languages, the essentials of engineering, and knowledge of business theory, and skill

in its practice essential to the management of overseas development projects.

A large number of higher institutions cooperated in this constructive conference program and have since modified in small or large degree their engineering training in order to permit at least one group of their students to work to this special objective and furnish a supply of men for a known need in our industrial-commercial development. The recommendations of the committee have been of service in the establishment or extension of the work at many large institutions. Of these institutions may be mentioned the following for the purpose of further inquiry: University of Alabama; University of California; University of Southern California; Sheffield Scientific School of Yale University; Georgia School of Technology; University of Notre Dame (Indiana); Iowa State College; Tulane University; Johns Hopkins University; Massachusetts Institute of Technology; University of Missouri; Princeton University; College of the City of New York; Columbia University; New York University; North Dakota Agricultural College; University of North Dakota; Oregon Agricultural College; Carnegie Institute of Technology; Swarthmore College; Brown University; University of South Dakota; University of Utah; Norwich University (Vermont); West Virginia University; University of Washington.

The course taken by the University of Cincinnati has been radical. In furtherance of the object of this combined training, this university has recently coordinated the departments of engineering and commerce under the administrative direction of a dean of engineering and commerce. This work was inaugurated at the University of Cincinnati September 22, 1919. The announcement of this coordinated college reads:

This course is planned to meet a demand on the part of the larger business organizations for men thoroughly trained not only in the commercial side of business enterprises but in the productive side as well. The relationships between production, marketing, accounting, and finance are so close that a knowledge of all of them is essential to work in the higher commercial positions related to large business undertakings. The cooperative course includes theory and practice in all of these phases of business.

#### **RELATED ACTIVITIES OF FEDERAL BUREAUS.**

In recent years several of the Federal departments have, through pertinent bureaus, carried on investigations and published bulletins helpful in suggesting ways and means for securing better methods in production and distribution. In some cases these studies and publications are intended for direct training of the personnel of the departments or of men and women engaged in that phase of business which is the special field of inquiry of a particular department. It



would seem, therefore, fitting in this report to refer, in conclusion, to the following:

*Department of Agriculture—Bureau of Markets.*—A series of bulletins on business practice and account keeping for cooperative stores, country groceries, cooperative elevators, live stock shipping associations, grain elevators, fruit shipping associations, and country warehouses.

*Office of Farm Management and Farm Economics.*—This bureau, recently organized, considers the economic aspects of agriculture to include cost of production and prospective returns, farm organization, credits and finance, prices and market facilities, etc.; and the economic history and geography of agriculture. On the basis of these investigations, now carried on over large areas, studies of incalculable value will be furnished the larger schools of commerce, particularly in the agricultural States, in the construction of a better coordinated program of instruction in commerce in which will share all factors in production upon which intelligent and efficient distribution or marketing must finally be based.

*War Department—War Plans Division.*—The secretary of the advisory board reports a rapidly growing business training program and the preparation of several outline courses which are now being printed.

*Department of Labor.*—Publications of the Training Service, a war activity which dealt with the subject of commercial training in its various aspects, were discontinued June 30, 1919, and there have been no publications since that date.

*United States Shipping Board—Recruiting Service.*—The training carried on by this service of special interest to commercial education is that which is emphasized concurrently with the sea-training program, namely, a maritime commerce course which is to be established at or near the principal American ports to include accounting, business correspondence, business principles, economics, elements of statistics, markets, elementary transportation, principles of foreign trade, one or more foreign languages, exports and imports, railroad and marine rates, business administration, business law, admiralty law, advertising, ship operation, and other basic subjects. The course now given at the University of Washington may be cited as typical of the program offered by the United States Shipping Board Free School of Navigation and Maritime Commerce in cooperation with schools or departments of business administration or commerce. The plan is to divide the academic year into four quarters. In the beginning year the first three-quarters will include accountancy, business correspondence, ship operation, business statistics, economic resources, typewriting, and an elective. During the

fourth quarter the student is assigned to sea-training or to business practice under supervision of the cooperative business firm. For the remainder of this four-year period required for graduation, the student will spend alternating quarters in study at the university and in service at sea or in practice in business. The course is of college grade, with the university entrance and graduation standards.

*Department of Commerce—Bureau of Foreign and Domestic Commerce.*—The officials of this bureau have taken a keen personal interest in the furtherance of commercial education. They have aided in the organization of schools for the study of foreign trade and have done everything within their power to stimulate effective work along this line. Classes have been taught by certain of the bureau's officials and chiefs of the division. The cooperation of the bureau, and in particular of the district office managers and cooperating foreign trade secretaries of chambers of commerce, was of incalculable value to the foreign trade training promotion program recently carried on by the Bureau of Education, of which mention is made elsewhere in this brief report. This bureau has long recognized the need for more thorough instruction in exporting methods, principles, and routine; and in pursuance of this purpose has published during the fiscal year 1919-20 four monographs designed to encourage and facilitate the study of all the factors in American overseas trade. Only brief reference can be made to these four monographs, which were prepared in cooperation with the Federal Board for Vocational Education or the United States Shipping Board. "Training for Foreign Trade," by R. S. MacElwee, F. G. Nichols, and others, Miscellaneous Series No. 97. This bulletin includes general basic courses covering export technique, market studies of major commercial areas, and courses in foreign languages.

"Paper Work and Export Trade," by G. E. Snider and R. S. MacElwee, Miscellaneous Series No. 85. This bulletin deals with the fundamental factors in the handling of orders from abroad and is supplied with a portfolio containing forms for practice work.

"Training for the Steamship Business," by R. S. MacElwee, Miscellaneous Series No. 98. This bulletin presents the plan and scope of instruction and furnishes six study outlines dealing with traffic management, wharf administration, marine insurance, laws of the sea, and steamship operation.

"Selling in Foreign Markets," by G. E. Snider, Miscellaneous Series No. 81. This publication consists of selected readings from published statements of business men and gives an analysis of sales methods.





DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1921, No. 44

# EDUCATION IN FORESTRY

PROCEEDINGS OF THE SECOND NATIONAL  
CONFERENCE, NEW HAVEN, CONN.  
DECEMBER 17-18, 1920



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# EDUCATION IN FORESTRY.

## PROCEEDINGS OF THE SECOND NATIONAL CONFERENCE.

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### INTRODUCTION.

The Second National Conference on Education in Forestry was held under the auspices of the School of Forestry of Yale University, at New Haven, Conn., on December 17 and 18, 1920. Its purpose was to discuss the question, To what extent and in what ways is it desirable to revise the standardized curriculum of instruction in forestry that for the past 10 years has been more or less closely followed by the leading forest schools of the United States? That curriculum was the outcome of the First National Conference on Education in Forestry, held in December, 1909, when was appointed a committee on standardization of instruction in forestry that published its final report in the *Forestry Quarterly* for September, 1912 (Vol. X, No. 3). The reasons that led to the conference of 1909 are set forth succinctly by Dean Toumey in his opening address (see p. 4).

The second conference on professional forestry education was called by Dean Toumey, of the Yale School of Forestry, after consultation with other foresters engaged in educational work. Those in attendance represented, personally or by proxy, all the forest schools in the country that offer courses leading to a forestry degree, or that otherwise train men for the practice of forestry as a profession. There were also present a considerable number of other persons interested in the topics under discussion.

At the time of calling the conference, during the summer of 1920, Dean Toumey named a series of committees, and requested them to be ready to report at the conference in December. In the appendix is given a list of these committees and also of those appointed by the conference, with their personnel. The committee reports, followed by discussions, made up the subject matter of the conference.

Through the courtesy of the United States Commissioner of Education the proceedings of the conference are made of permanent record in this bulletin, the conference having very gladly accepted the commissioner's offer to incorporate this material in a publication of the Bureau of Education.

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### ADDRESS OF WELCOME.

By **DR. ARTHUR TWINING HADLEY**, President of Yale University.

It is a great pleasure to welcome you at the opening of this conference on education in forestry. Every convention on technical education, and in fact on education of every kind to-day, has an inestimable value, a value different from



what it had in times past. Formerly educational conferences meant comparison of methods of teaching in different institutions. The result was an improvement in technique and an improvement in purpose and spirit. To-day we have a different problem and a greater one. With the changes the war has produced, the high cost of living, etc., the matter of conserving our powers and of economy has come into education. Economy can be viewed in two ways, by saving money or making it go as far as possible; adapting means to ends—determining which things must be done now, which things can be postponed, which things need to wait until the special interest can best be suited.

An educational conference is, therefore, no longer a comparison of methods of scientific results already obtained. It is the adapting of methods into an organization which must have as much division of labor as a manufacturing plant, which must view the problems of demand, whether urgent in the immediate future, or the kind that can be dealt with more as circumstances allow, which must adapt the education of the country not simply to the methods of the science but to their position in our educational system as a part of the economic system of the country.

In this, foresters are adapted to lead the way. Forestry above all else is animated by the spirit of public service. It will take the lead here because it is free from the danger of subordinating public welfare to private consideration. We should study the demand for different lines of education as well as the supply, but always from the standpoint of the consideration of national before private interest. We welcome you all most heartily to this conference.

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### OPENING ADDRESS.

By JAMES W. TOUMEY, Dean, Yale School of Forestry.

The first national conference on education in forestry in the United States was held in Washington, D. C., on December 30, 1909. That conference was called through the initiative of Gifford Pinchot. The object of the conference was fully set forth by Prof. H. S. Graves, in an article in the March number of the *Forestry Quarterly*, published in 1910. At that time there were over 20 institutions in this country and Canada which gave instruction in forestry. Forestry was then first beginning to attain a recognized place in educational circles in this country. There was no recognized standard of professional training, as was shown in the wide difference in scope in the forest schools and the great diversity in attainments of those calling themselves professional foresters. As pointed out by Graves, the civil service examinations served in a measure as a professional standard, but as only a part of the men trained in the schools took the examinations it scarcely answered the purpose.

The real purpose of the conference was to take the first steps in an agreement among the schools as to the character and minimum technical training required of a forester of the different grades. It was emphasized at that conference that the pressure to emphasize the practical application of forestry without due attention to the theory endangered the best development of forestry education in this country. It was also recognized that the omission or restriction in time of study given to the essential preforestry subjects in science and language was disastrous to the best training of the forester. At that time practically all the forest schools had developed within the previous decade, and it was emphasized that they must provide a better training than in the past when they were in the period of organization and the adjustment

of their curricula, and when instructors of adequate background and experience were not available. Looking back over a period of 10 years it is clear that the Washington conference, attended by delegates from nearly all the forest schools then in existence in America, has had far-reaching effects on forestry education in this country during the past decade.

One of the important results of that conference was the appointment of a committee on forestry education in America, with H. S. Graves as chairman. The purpose of this committee was to prepare and report upon a plan looking forward to a better standardization of forestry education in the different grades in this country. The committee reported at a special conference in Washington, in December, 1911, attended by representatives from 16 forest schools and departments of forestry in American colleges and universities. The plan proposed by the committee was discussed in detail and action taken on matters relating to admittance to schools of different grades, curriculum, and the number of hours in each subject. The final report embodying action taken at this special conference was published in the *Forestry Quarterly* for September, 1912.

The majority of the committee and the representatives of the institutions present at the special conference recognized that there should be in America four different grades of instruction in forestry.

- (a) Advanced professional training, to include not only a substantial general education but also a well-rounded course in all branches of technical forestry.
- (b) Instruction for forest rangers, based upon a high-school education or its equivalent, and conducted mainly along thoroughly practical lines.
- (c) General instruction in forestry supplementary to a course in agriculture and designed to be of assistance to owners in the handling of woodlands.
- (d) General courses in conservation and forestry for those who desire it as a part of their general education.

Although the above grades were recognized by the conference, the work of the committee in the final report was confined to formulating standards and requirements for professional training leading to a degree. No action on secondary forestry education was taken by the conference. However, in 1913 a subcommittee on secondary forestry education, of which the writer was chairman, was appointed by the National Conservation Congress to present a report at the November meeting of that year. This report, published in the *Proceedings of the Fifth National Conservation Congress*, discusses the development of secondary forestry education in the United States and outlines curricula for various grades of schools and colleges that offer courses in forestry subjects below the grade of full technical training.

Since 1913 there have been no conferences on forestry education and no extended journal articles dealing with this important subject. Each school has been left to work out, extend, and reshape its curriculum without reference to other schools, at least without mutual discussion and helpfulness. As a consequence forestry training in this country in the various grades has tended to diverge more or less from the standard of 10 years ago. To considerable extent local needs have emphasized extended training in certain subjects to the elimination or almost total suppression of others essential in a well-rounded course. In not a few instances the stress for time has continued to restrict the attention that should be given to preforestry subjects, and foresters continue to leave our schools with insufficient background in general educational subjects.

For some time the speaker has recognized the need for a second national conference on forestry education and in the early summer of 1920 he was urged by many foresters engaged in educational work to call such a conference to convene at New Haven, Conn., on December 17 and 18, 1920. In order to facilitate the work of the conference and make it productive of the most good, a number of committees were appointed some months ago to prepare reports on the more important phases of forestry education in this country. We are here to-day to hear these reports and after full discussion to take such action as is deemed desirable.

## **REPORT OF THE COMMITTEE ON THE UNDERGRADUATE COURSE LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN FORESTRY.**

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It is an axiom that no superstructure can long endure unless it rests on a firm foundation. Whatever opinion one may hold as to the length of time needed to train a man for the practice of forestry as a profession, we are all agreed that he should be well grounded in the fundamentals. The purpose of this report is to set forth what in the judgment of this committee constitutes the groundwork of a technical education in forestry, whether or not it is to be followed later by a more specialized study.

This report is based on the assumption that the normal undergraduate course in professional forestry will cover a period of four years. This the committee believes should hold as the absolute minimum. For easy comparison with existing curricula these years may be divided into eight terms of 15 or 16 weeks of actual instruction each, exclusive of vacations and term examination periods. The four-year period will thus include three summers of approximately three months each.

It is further assumed that upon the successful completion of course work aggregating 130 credit hours, more or less, in accordance with the regulations of each forest school, there shall be conferred on the candidate a bachelor's degree. The committee has not considered whether that degree should be styled Bachelor of Science or Bachelor of Science in Forestry, in that this is a matter that for the most part is regulated by the faculty, or other legislation governing individual institutions.

The committee was assigned the duty of outlining an undergraduate course. The question of whether such a course will give a man adequate and full preparation for the practice of the profession is the province of other committees of this conference. On this point the committee, as a body, expresses no opinion, although its members, as individuals, have very definite ideas thereon, ranging from the viewpoint of Prof. Bruce that four years is enough, to the opposite extreme, which would favor six or even seven years of college work as being none too much to permit the prospective forester to get all that he really ought to have. In this report, however, the committee deems its function to be to set forth how a student who desires to fit himself for professional work in forestry, and who has only four years to devote to college training, can use that time to the best advantage.

Before proceeding to the consideration of the curriculum which it presents for discussion, there are a few general points on which the committee desires to go on record.

Taken by and large, the committee is in substantial agreement, except perhaps as regards a foreign language, with the statement of "Requirements for a Degree in Forestry," announced by the committee that in 1912 reported on Standardization of Instruction in Forestry, as set forth, on pages 344 to 347 of the Forestry Quarterly, Vol. X, No. 3, September, 1912 (pp. 4-7 of the separate of that report). But, on the basis of the experience of the past decade, the com-

mittee believes that the emphasis should be placed to-day somewhat differently from what it was in 1912. One member of the committee says of the 1912 program: "It treated forestry as a science rather than as a profession." The leaning then was toward botany and silviculture; the present trend is more toward utilization, management, and a wider knowledge of economics, although it is recognized that silviculture will always be the backbone of management.

Approaching the subject more in detail, the committee submits its judgment on several specific points, as follows:

1. Entrance requirements. While admitting the desirability, for several reasons, of pushing back into the preparatory schools certain subjects, especially solid geometry, algebra, and trigonometry, and perhaps physics as well, the feeling of the committee is that in general the forest schools had best not set up requirements for admission different from those of other departments of the universities of which they form a part. It is assumed, however, that entrance requirements shall be of high grade and that they shall cover such subjects as, for example, are now administered by the college entrance board. But there is no objection at all to including in the announcement of any school a strong recommendation to prospective forestry students that they come prepared to pass off certain subjects at entrance.

There is some difference of opinion in the committee on this point, but the fact remains that if a student has to take while in college elementary subjects that he might have got equally well in high school, time will be used up that might otherwise have been devoted to courses that can only be given to advantage in college. Most forest schools are trying to give in four years work that could advantageously be expanded into five. The fewer elementary subjects there are included, the more room there is for technical forestry subjects, or for such closely allied topics as economics.

As to language requirements, the majority opinion of the committee seems to be that French or German should be offered for entrance and not form a part of the college course. There is urgent need for a stronger course in English than is given in many colleges. For the forester, training in composition is more important than an acquaintance with English literature, desirable as that unquestionably is. The ability to speak and write vigorous, virile English is a great asset to any man. Courses that give him training in exposition and argument, through the preparation of theses and reports, seem to be what is needed. If it is impracticable to institute such courses, the forest school faculties should demand of their students that the written work in forestry courses conform to certain standards, even if to do so entails some drudgery on the part of the instructor in the correction of papers. Somehow forest-school men must be made to learn to use English with force and precision.

2. Saving time through the regulation of entrance requirements naturally leads to the question of how far certain advanced subjects, like management and administration that in some schools are now taught only to graduate students, should be incorporated, if at all in an undergraduate course. The committee feels that place should be made for them, leaving the fifth year for those who can go on to the master's degree, to be devoted primarily to specialization. But here again the members of the committee differ to some extent.

3. Based on the principle that it is the duty of the forest schools so to train their students that, following a period of apprenticeship after graduation, they will be equipped to handle large problems, including the framing of forest policies, the committee is in favor of introducing in the later years of the undergraduate course such subjects in the field of economics as business

law, accounting and cost accounting, industrial organization, and the like. Certain of these require as a prerequisite the general course in economics now required in most college curricula, as it certainly should be in all forest schools. While it is true that a knowledge of these subjects can be acquired through reading, the committee feels that enough work in them should be done at college to establish an interest that will result in subsequent study. Foresters have been prone to forget that forestry and economics go hand in glove.

4. The opinion of a majority of the committee appears to be that a more or less fixed curriculum is best for an undergraduate course. But nevertheless it should be so administered that in the junior, and particularly in the senior year, there may be opportunity for specialization, at least through election from a list of specified courses. The difficulty with too early specialization is that the student is liable to make an unwise choice and then, upon discovering his error, to be unable to readjust himself without considerable loss of time, and perhaps of interest as well. One member of the committee, Mr. Bruce, holds, however, that specialization should begin early, even before entrance to college. To this end he advocates the announcement of parallel curricula in general forestry and in utilization, with considerable flexibility in each, when approved by a faculty adviser.

Several forest schools publish, or at least bring to the attention of the forestry students, a list of courses recommended for election. The committee is agreed that the success of such an elective system depends to a considerable extent on how closely the student is directed by a faculty adviser *who really advises*. The experiment of unrestricted election at Harvard, under President Eliot, has led the pendulum to swing back in many colleges, and particularly in the technical schools, to a closer adherence to a fixed curriculum, at least by underclassmen.

5. The committee is unanimous that professional forestry students should be required to engage in forestry work during the summer vacation period, but opinions vary as to how much and just what should be demanded. The opinion of a majority of the committee seems to be in favor of one summer spent with a forestry party or in a position in a forest industry, plus another summer spent, in whole or in part, in a forestry camp under faculty guidance. Formal instruction need not necessarily be a part of such a camp, but the work in the field must be under strict direction. It should amplify the instruction given by lectures, laboratory exercises, and local field trips in the winter terms, in the essential branches of forestry.

If the forestry camp continues throughout the summer, field work in topographic mapping may be included. If the forestry camp is only of a few weeks' duration, attendance at a civil engineering camp may well also be required. Forestry students should be recommended to do additional work in the forest, in other summers, beyond the minimum requirements. Prof. Briscoe, however, holds that forestry students "get more practical work and more real experience in the woods than in a school camp, and that many students need this time for earning money enough to complete their college work during the remainder of the year."

6. The committee unanimously recommends that the forestry students at all forest schools heartily be encouraged to organize and maintain a vigorous forestry club. The activities of such an organization are a useful adjunct to the classroom and laboratory. The club campfire constantly rekindles the torch of professional esprit de corps that the faculty of every forest school is endeavoring to have handed on from class to class. A live forestry club is a potent factor in the success of any forest school.

## RECOMMENDATIONS.

Specifically as to a four-year undergraduate curriculum the committee desires to emphasize:

1. That the first two years should be devoted primarily to fundamental subjects like English, chemistry, botany, geology, mathematics, and mechanical drawing and civil engineering.

2. That the technical forestry courses should come mainly in the junior and senior years.

3. That more courses in the field of economics should be included than is usual to-day in the curricula of most of the forest schools.

4. That while some specialization may be permitted, if indeed not encouraged, in the junior and senior years, deviation from the regular curriculum should be made only with the approval of a member of the faculty, and in any event that the courses should be selected from a recommended list. If a student desires a wider range of election, he should frankly be told that he must extend his period of residence at the university.

5. In most of the land grant colleges military training is required of all men during the freshman and sophomore years. In certain universities, additional work is required as well in physical training and in hygiene, outside of the regular curriculum. The committee has not made provision for such requirements in its recommendations, although, of course, work of this sort demands of the students a varying number of actual hours per week.

The difficulty of attempting through correspondence, and in the very limited time permitted, to work out a really satisfactory curriculum must be apparent to everyone. The committee frankly admits that the curriculum presented is only a suggestion, which should be followed up by careful and extended study. It hopes that this conference will authorize such a project.

It is, of course, not expected that the curriculum proposed by this or any other similar committee will be adopted by all forest schools offering an undergraduate course. Nor is it desirable that all schools should follow a uniform curriculum. Some schools can emphasize certain subjects better than can others. Perhaps the best results will follow if each school develops those features for which, owing to location or other factors, it is peculiarly adapted. Prof. Bruce accepts the curriculum proposed by this committee as a "general forestry" program, but he feels "that a man graduating therefrom is not to be considered as being adequately trained for forestry work on the utilization side." He thinks "we need a parallel course in forest utilization or forest engineering, based more on physics, mathematics, and mechanics, and less on the biological sciences." Prof. Bruce considers the recommendation "of such a curriculum to be within the scope of this committee, i. e., an undergraduate course leading to the degree B. S. (in forestry)." As indicating a different point of view Prof. Briscoe objects that some of the suggested courses in economics should give place to a larger number of hours in dendrology.

The important point to emphasize at this time is that it is very advisable that certain standard requirements for graduation be indorsed by all the representative forest schools of this country and Canada. If the leading schools can, after discussion, come to substantial agreement on fundamentals, this conference will have served its purpose, as did that of 1912.

## SUGGESTED CURRICULUM.

The committee submits as follows a four-year undergraduate curriculum in general forestry that meets with the approval of its several members.

The curriculum recommended by the committee is in three parts: (1) The subjects to which at least four members of the committee have agreed. These are set forth in schedule form. (2) Supplementary subjects which some members of the committee feel should be included somewhere in the forestry course, if not indeed in stated years. These are listed as recommended electives. (3) A longer list of subjects from which, depending on the desires of the individual student, selection could be made, under faculty supervision, in choosing electives. This list is called suggested electives.

Had the committee been able to meet in person and discuss this matter, the first list might have been more extended; also, further subjects might have been mentioned as suitable for election.

The recommended curriculum is as follows:

### SUGGESTED CURRICULUM

For a Four-Year Undergraduate Course in Professional Forestry Leading to the Bachelor's Degree.

#### FRESHMAN YEAR.

<i>First Term.</i>	<i>Credit hours.</i>	<i>Second Term.</i>	<i>Credit hours.</i>
English (composition)-----	3	English (composition)-----	3
Chemistry-----	3	Chemistry-----	3
Botany-----	3	Botany-----	3
Geology-----	3	Mechanical drawing-----	3
Trigonometry <sup>1</sup> -----	3	Biology or zoology-----	3
		Field of forestry-----	2
	15		17

#### SOPHOMORE YEAR.

Civil engineering-----	3	Civil engineering-----	3
Physics <sup>1</sup> -----	5	Soils-----	4
Dendrology-----	3	Wood technology-----	3
Plant physiology-----	4	Organic chemistry-----	3
Economics (general)-----	3	Economics (general)-----	3
		English (composition)-----	2
	18		18

#### Summer following sophomore year.

Three months' period of practical experience with a forestry party or in a forest industry. Required.

#### JUNIOR YEAR.

Forest mensuration-----	3	Forest engineering-----	3
Forest regions (timber trees, physiography)-----	3	Silvics (forest ecology)-----	3
Forest entomology-----	3	Forest pathology-----	3
Business law-----	2	Fire protection-----	2
Accounting-----	3	Timber treatment (seasoning and preservation)-----	2
Electives-----	4	Electives-----	5
	18		18

#### Summer following junior year.

Forestry camp. Practice in forestry work under faculty supervision, 4-8 weeks. With this may be combined field practice in topographic mapping, or the forestry camp may be preceded by a civil engineering camp of from 4 to 6 weeks' duration.

<sup>1</sup> When not offered and passed at entrance.



## SENIOR YEAR.

Silviculture.....	4	Seeding and planting.....	3
Utilization (logging, etc.).....	3	Management (including organization and finance).....	4
Forest history and forest policy (National and State).....	3	Electives.....	11
Mapping (data from civil engineer camp).....	2		
Electives.....	6		
	18		18

## ELECTIVES.

*Recommended.*

	Credit hours.		Credit hours.
Solid geometry (if not offered at entrance).....	3	Public speaking.....	2
Meteorology (for those offering trigonometry at entrance).....	3	The forest industries:	
Microscopic wood technology (laboratories with a few lectures).....	2	Lumber.....	2
		Pulp and paper.....	2
		Economics:	
		Cost accounting.....	3
		Industrial organization.....	2
		Labor problems.....	3

*Suggested.*

	Credit hours.		Credit hours.
Agronomy.....	3	Industrial hygiene.....	2
Analytic geometry.....	3	Lithology.....	1
Animal husbandry (general principles).....	3	Mineralogy.....	3
Commercial geography.....	2	Plant pathology (general).....	3
Economics (public and corporate finance, budgets, etc.).....	3	Psychology.....	3
Entomology (general).....	3	Shopwork (wood).....	1
Forest law (Kinney's texts).....	2	Shopwork (iron).....	1
		Zoology (systematic mammals).....	3

*Subjects best taught in given regions.*

Logging engineering.  
Grazing.

The above report is submitted for the consideration of the conference.

R. S. HOSMER, *Chairman.*

J. M. BRISCOE.

DONALD BRUCE.

A. K. CHITTENDEN.

R. R. FENSKA.

J. S. HOLMES.

*Committee on Undergraduate Course.*

## DISCUSSION.

Following the Report of the Committee on a Four-Year Undergraduate Course.

In answer to a question from Prof. Belyea, of Syracuse, as to the reason of the incorporation of inorganic chemistry in the sophomore year, Prof. Hosmer stated that this was a required subject in most colleges, and, further, that it was a prerequisite for organic chemistry. The chairman called for a show of hands as to whether organic chemistry should be included in a four-year undergraduate course in forestry; 17 ayes, 10 noes.

On the question of whether the preparation which the average student receives in the preparatory school in elementary mathematics, including solid geometry and trigonometry, and in physics, is sufficient, or whether college courses in these subjects should be required, a show of hands showed 7 in favor of a college requirement; 15 that passing off these subjects by entrance examinations was sufficient.

On a vote on the question of whether forest schools should set up a separate set of conditions governing entrance, or should accept students who had passed the equivalent of the requirements of the college entrance board, there was unanimous expression of opinion that the latter practice should in general be followed.

The question being raised whether a forest school should demand more credit hours for graduation than is demanded in other schools conferring a bachelor's degree, it seemed to be the opinion of the conference that, because a forest school is essentially on a professional basis, it could demand that courses aggregating a larger number of credit hours should be included in this curriculum. This is following the procedure already in force in a number of the colleges of engineering in this country.

Mr. Herbert A. Smith, of the Forest Service, emphasized the necessity of sufficient work in English so that the students should acquire the ability to express themselves with clearness and accuracy. He felt that too early specialization was undesirable and that the early part of the course should be devoted to laying proper foundations in which the study of English should have no small part.

In closing the discussion on this report, the chairman made it evident that to the committee had been assigned a task of working out on paper what it thought the best course in forestry for a man who could only spend four years in college. The report of the committee should be read in that light, rather than as constituting a fully rounded out curriculum for forestry instruction. The committee was assigned a definite task. The question of what work should be taken by students who desire fully to prepare themselves for the profession falls in the scope of another committee.

## REPORT OF THE COMMITTEE ON THE POSITION THAT FORESTRY COURSES SHOULD TAKE AS CULTURAL AND EDUCATIONAL DISCIPLINE.

Presented to the Conference by Dr. P. P. CLAXTON.

Statistics show that only about 2 per cent of our students of school age carry their education to the point of a college degree. Since most of the education in forestry to-day is confined to technical schools of college grade, agricultural colleges, and the like, it is obvious that, if the great mass of people are to know anything about forestry and its relation to human welfare, some courses of study in the subject must be introduced into the graded schools. Forest geography might be taught in the elementary schools, and if the Forest Service would prepare a leaflet on this subject, most State superintendents could be induced to include the work in their schools. In the schools of higher grade, forests in their relation to human welfare and the industries could be studied, so that in time there would be formed in the minds of the people an appreciation of the problem and a sympathetic interest in it. Education of the public in the field of forestry is the only way in which any constructive legislation can be accomplished.

The needs of the situation in the schools can be met if material already in existence is organized and assembled in such a way that it can be utilized by teachers; this should be supplemented by a series of questions and suggestions, so that teachers will be able to direct the attention of pupils in the right ways. A closer coordination between schools teaching forestry subjects would also be of great assistance.

### DISCUSSION.

In the absence of Dr. C. D. Jarvis, of the Bureau of Education, the foregoing informal statement was made by Dr. P. P. Claxton, United States Commissioner of Education. Commenting upon this statement Dr. Claxton said that it is the business of the Commissioner of Education to look forward into the future and see what kinds of education will be needed. The duty of schools is to train the citizens of the future. In time there will be need for a large number of scientifically trained foresters. There is, therefore, a place for education in forestry. From having so many ramifications in the field of economics, it is essential for the well being of any country to have men trained not only for the technical practice of the profession, but also able to handle large questions of policy.

There is also need that the public should have some general information about what forestry is and what it seeks to accomplish. It is not necessary that the great mass of people should know forestry technically, but they should know enough about forestry and its relation to public welfare so that they can understand and have feeling and sympathy for it. It is, therefore, desirable that forestry be introduced as a subject of study in the elementary schools.

Dr. Claxton further suggested in connection with the technical aspect of forestry education, that in his judgment it would be a good thing were the committees of this conference continued, to give further study to this whole subject. A useful precedent has been set in this way by the committees appointed at a conference of highway and transportation engineers held in May.

1920. These committees have been making analyses of the different things necessary to be done and the several kinds of preparation requisite therefor. Is there not need for similar consideration of the problem of education in forestry?

In answer to a question as to what can be done at once to introduce forestry into the schools, Dr. Claxton suggested that lesson leaflets should be prepared and that a good place to begin was with the study of forest geography. If the Federal Government would get out such a leaflet he thought that he could induce most of the superintendents of State education to require its use.

Mr. S. T. Dana, of the Forest Service, suggested that in this connection it might be desirable to call a conference of superintendents of schools on forestry as a cultural and educational subject, in which might also be included the presidents of universities and the deans of colleges. Dr. Claxton said that he would be glad to consider this if the conference should ask for it.

The discussion closed with the suggestion that the committee might well, in its study of this question, recommend some form of cooperation between the Bureau of Education and the Forest Service that would lead to the preparation of a manual on forestry for use in the public schools.

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# REPORT OF THE COMMITTEE ON THE COURSE LEADING TO THE DEGREE OF MASTER OF FORESTRY.

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## THE FUNCTION OF A FIVE-YEAR COURSE IN FORESTRY.

Modern civilization rests upon the principle of cooperative effort in providing on a large scale and in advance of actual need the materials required for maintaining our standards of living. The three foundation stones are capital, cooperation, and Christian ethics. Forestry as a national policy embodies the highest development of the ideals of this civilization. The function of capital is to make possible the existence of individuals during the period required to organize an industry and produce the goods. Its destruction means starvation and savagery. Forestry requires by far the greatest period of time for production of any material, and is thus most closely dependent upon the ability to await returns, and upon the foresight and self-denial in the present, which this effort calls for. Cooperation means the development of specialists and technicians on the one hand, and on the other the harmonious working of this complicated organization for the common good, as opposed to class warfare. In forestry our progress will be measured to a far greater extent than in any other line by public activity, whether through direct ownership or cooperation with private effort. I need not emphasize the third factor—ethics—which alone protects property rights and makes any form of cooperative effort possible.

The material energies of organized society may be summed up as the organizing and conduct of enterprises which supply the consumer with what he needs when he needs it. The success of this effort is gauged by the abundance and cheapness of the goods supplied and the relative advance in average standards of comfort. This involves a threefold process fundamental to the consideration of forestry education: First, a study of the needs of wood consumers; second, the technique of wood production, harvesting, and utilization; and third, the business factors of adjusting the supply or production to the demand. It is possible to separate practically all forestry subjects into these three groups, except those applied sciences which are synthetic in character and whose function is to teach the principles of harmonizing the three elements into practical directions for operations.

The first group may be termed "economics." This deals with the demand, or the reaction of the forest on man. Its basis is the means of expression, language. Its fundamental sciences are history and economic relations, based on statistics. Its forest sciences are forest history and forest economics, while it finds its practical application in policies crystallized and expressed by laws.

The second group may be termed "technique" and deals with the physical environment altogether. Its basis lies in the sciences of physics and chemistry. Its fundamental sciences are geology, botany, zoology, mechanics. Its forest sciences are forest physiography, and soils, dendrology, and forest pathology, forest ecology or silvics, forest entomology and zoology, and wood technology. Its applied sciences are silviculture, forest engineering, forest utilization or

lumbering, uses and preservation of woods and wood-using industries, and forest protection in its technical aspects, including applied entomology, pathology, and engineering.

The third group, or business, is the one about which most confusion exists, and which is commonly divided between each of the others, some subjects being thrown with economics or demand, others with technique or supply. What constitutes the distinguishing character of this group? The function of a business being to supply demand, it is not limited to the technique of production. The business factors, distinct from these technical methods, deal with the three factors of quantities, location, and order or sequence—that is, the time factor. The basis of this group is mathematics and mechanical drawing. But when we come to the sciences, two sections appear, the one bearing upon economics, the others upon technique or the physical world. The fundamental science in this group belonging to the economic wing is accounting. That belonging to the physical wing is surveying. The one deals with man, the other altogether with the earth.

With surveying we encounter the classification termed engineering. This subject is commonly and correctly classed, under the term civil engineering, with dynamic engineering, for which it paves the way. But surveying and mapping, though forming this connecting link, belong absolutely in the business group, since they effect no dynamic change in the physical environment, but merely locate and measure areas, one of the three primary functions of business.

In the forest sciences the same two wings are in evidence. On the economics side is forest finance, which deals mathematically, through accounting methods, with the purely economic factors of forestry; hence is frequently confused with economics, with which it is the connecting link. On the physical side is forest mensuration, which deals mathematically with the living forces of nature, which it attempts to measure and interpret, thus forming the connecting link with ecology and silviculture. The greatest error in teaching either of these subjects is in viewing them from their purely mathematical aspect and striving to attain mathematical precision in results, when neither human nature nor plant life conforms to mathematical laws. Forest surveying and mensuration are combined under the term forest survey.

The applied science in this group is forest management, which includes organization and regulation of forests. This is a synthetic subject resting directly upon the three groups, based upon forest policy on the one hand and silviculture on the other, but based equally on the mathematical or business factors of finance and forest survey. It belongs in the business group because it is distinguished from each of the other groups by dealing, characteristically, with the purely business factors of quantity, location, and time, and with the organization and business or office methods by which to insure order and sequence of operations. Forest protection is a phase of forest management. Fire protection depends as much on economics, or public education and laws, and on business, or an efficient personnel well organized, as upon methods of fire prevention and fighting. This synthesis makes the subject difficult to classify. Lumbering when it treats of the lumber industry has the same threefold basis and can not be segregated as an engineering or technical subject, though the study of logging methods belongs there.

By temperament and training men tend to class themselves in one of three groups coordinated with this threefold division of forestry. To the economic group belong some of the great pioneers of forestry like Dr. J. T. Rothrock, of Pennsylvania, and many men prominent in the forestry movement whose work

has consisted in establishing the foundations of forestry in public policy, men not necessarily possessed of a technical forestry training. To the technical group belong the research specialists who are laying the foundations of forestry in the woods. These men as specialists are indispensable, but can we depend upon them alone to establish the practice of forestry? Until the advent of the trained forester, forest agitation got nowhere except as a land policy, which is pure economics. On the other hand, the purely technical side of a forester's training tends to make him contemptuous of the economic side, and to regard popular education as hot air because it does not teach him anything new, and speech making as an ordeal to be shunned. These ultratechnical foresters remind one of the text, "and like a lamb, dumb before his shearers, so opened he not his mouth." They are absolutely dependent for their livelihood as foresters upon the efforts of the economic group, or upon conditions created by these efforts, or else are forced to seek other employment; yet because of the defective specialization in their education these foresters are unable and unwilling in many cases to support this group. Of the two, the economist is bound to have the broader outlook, but he is often impractical. The fundamental defect of a too narrow specialist is intolerance and lack of comprehension of either one or both of the three phases or aspects of enterprise, which leads him to belittle instead of encouraging those engaged in these other rôles, thus operating not to build up the enterprise but to unscrew the bolts which hold it together.

Specialization without vision is not the result of education but of the lack of it. The laborer is a technician, usually excelling in some line, even if it is hod carrying, and with all the benighted insolence of superiority which this excellence gives when not accompanied by a comprehension of the functions of those who are not technicians. The utter disregard of practical affairs shown by the dreamer of utopian theories or narrow economist, when joined with this technical bigotry, is capable of consuming the world. The mathematical or business specialist, typified by the clerk, has no soul above figures. As the old Yale song has it, "now, which of these three persons would you most prefer to be?" The answer is, "The man behind," which, being interpreted, means the leader or organizer, the one who welds together these three elements which were never intended to be discordant or warring; the practical man who possesses not one but all three traits harmoniously developed; who is a thorough technician, understanding the art of successful forestry; who is a sound economist, understanding human nature and the relations of the industry to demand; but who above all is a practical business man, an administrator, who can successfully direct large undertakings and produce, in fact, the perfect cooperation required of forestry as of any other business.

Such men are possessed of the qualities of leadership, and they will become leaders as certainly as oil rises to the surface of water. It is not an accident that a very careful survey some three years ago of all the graduates of the Yale school of forestry showed that over 70 per cent had, in their career subsequent to graduation, demonstrated this ability for leadership.

But what is the rôle of a forest education in producing this type of person? Is he born that way? Can you make leaders by mere school training? There is not one of these three elements that is not better learned outside of college than in it. Economics means the study of human nature, not from books but at first hand, in the woods and factory, in public life. Technique means doing things, and the best way to learn how is to do them or be very close to them. Hence the scorn of the sophisticated laborer for the greenhorn with the education. And where else can a man learn the rules of business than in the

game itself? Haven't we a host of hard-headed, self-made men to emphasize this truth? Yes, we can all learn one, perhaps two, of these faculties in the school of experience, but it takes three legs to hold up a stool. One man in 100 may attain the power of coordination by his own efforts in the practical school of experience. Thinkers are not confined to the college bred. But more often such men have failed to attain the symmetry required of leaders. When they are given these responsibilities, what happens? They throw a monkey wrench into the machinery either by their failure to appreciate the vital relation of research to the health of the enterprise, or by lack of vision in dealing with personnel, or else they can not swing the administrative problems confronting them. The United States Forest Service has developed a few striking instances of this one-sided inefficiency. Its effects upon an organization are always serious and blighting. By contrast, the remarkable success of the Forest Service, far exceeding that of any administrative branch of the Government in the same period of time, is due directly to the predominance of the well-balanced type of leader, who can build constructively and inspire his subordinates.

In general this effect springs directly from the cause of the general training in forestry received by so many of these men employed by the Forest Service. Well-rounded college training is not a substitute for practical experience, but it is almost certain to give to the student the maximum chance of coordinating the three phases of his education and thus making out of him a leader as well as a specialist. Just as the origin of man from the lower animals came through coordinated development of all the senses leading to the power of thought, so narrow technical specialization must be accompanied by symmetrical development of practical business sense and full human sympathy, if the human race, or the profession of forestry, is to progress.

Does the four-year course in forestry supply this balanced training, or can it do so? This is not a question of technical training. It is not disputed either that technicians in logging, wood technology, silviculture, or other special lines can be given adequate preparation in four years, or that we need a much larger number of men in the ranks of forestry than in command. The question is, rather, What will the fifth year do for the forester who takes it?

F. H. Newell says:

The human viewpoint is the most important part of education. Logic and reason are not the controlling factors. Emotions, sentiment, and ideals are more powerful.

In the report of President Hadley, of Yale University, for 1920, is the statement:

Especially is it necessary that men trained along lines of *applied science* should have a training not too narrow in extent or too highly specialized in character.

R. D. Forbes, in an article in the *Journal of Forestry* in April, 1920, on education says:

What forestry needs is not specialization, but generalization. Forestry more perhaps than most professions needs men of broad training rather than specialists. In the present state of development of forestry in America we need administrators (business men) and propagandists.

Prof. R. C. Bryant says:

It is one of the weak points in our profession that we have not developed forestry-economists who can speak authoritatively on the many vital problems affecting forests and forestry. We have neglected the broader economic phases of the subject.



Prof. S. N. Spring gives as his contribution to this report:

A course covering four years and comprising the fundamental sciences, engineering and forestry courses with a minimum of hours in English and economics, forms too narrow a training for the development of a professional forester. There is need of more economics, English, history, business courses, law, and the like. Youth and undergraduate activities, desirable as they both are, prevent as searching work as is found possible in a fifth year of graduate work, which, properly correlated with the former, should produce men who will raise the standards of forest practice and not be mere practitioners of forestry. There must be schools that can give adequate training to maintain the highest standards and to make sure of the best development in forestry in the United States. We must not have in mind the training of foresters solely under present day needs but give the breadth of training that will meet future conditions.

P. T. Coolidge writes:

We can not derive the best benefits from our wild lands as State or Federal administrators or as private foresters except from a point of view which includes a much wider knowledge than that comprised under the teaching of forestry as an art.

He cites the need for economics, history, English, and a modern language—in his case, French.

Our education in forestry during the last 20 years has proven weakest in the approaches to mechanical engineering. \* \* \* Whatever essentials of engineering can be included in a forestry course will prove of greatest value. \* \* \* A subject that for many years had received insufficient attention is accounting. \* \* \* The instruction at Harvard, combining lumbering and business administration, has enabled graduates to do very distinctive work. The silvicultural twist in our education has unduly emphasized consideration of the trees to the detriment of consideration of the forest.

Dr. Roth says: "I believe in a five-year course for the real student who aims at work that is either big or deep," and the Michigan five-year course is planned to enable the student to introduce languages, economics, and other cultural subjects.

In considering what should constitute a well-balanced five-year course of training for a professional forester, and in comparing the courses now given both in four years and five years a common standard of credits is required. Practice differs somewhat between colleges. The standard which has been adopted in this discussion is, for lecture courses, 1 hour for a term of one-half year, consisting of 16 weeks of classroom work, exclusive of examinations and vacations. For laboratory work practice varies between 2 and 2½ hours as the equivalent of 1 hour of classroom, sometimes varying within the same college and department according to the course. For field work, practice varies from 2½ hours to 8 hours as the equivalent of 1 hour of classroom work. At the University of Minnesota one credit hour is equivalent to one lecture or recitation period requiring 2 hours of preparation, 2 hours of laboratory work requiring 1 hour of preparation, or 3 hours of laboratory work with no preparation, each week for one quarter. Three quarters give 32 weeks of work exclusive of examinations. In the four-year course 210 credit hours are required for graduation, which reduced to the minimum basis by the factor two-thirds gives 140 credit hours, or 35 per term, inclusive of the summer field work at Itasca Park, the omission of which lowers the term average to approximately 32 credits.

At the University of California, 130 units of study are required for a four-year course, which includes 6 units of summer field work, or 124 for the regular terms, an average of 32 per year.

The Yale course has been computed by using 2 hours as the equivalent for laboratory work, and 3 hours for field work. As there are 66 hours of labora-

tory work, the use of 2½ hours as the equivalent would reduce the total credits by about 6 units, giving approximately 200 units. The variation between colleges as to length of term and equivalents used is apparently not sufficient to require the use of reduction factors to obtain a common standard or weight.

The next factor is the size of the load per term or year. See Table 1.

TABLE 1.—*Grouping of subjects in 4 and 5 year courses.*

By group of subjects. <sup>1</sup>	Four years.				Five years.			
	Michi- gan.	Cali- fornia.	Penn- syl- vania.	Pro- posed.	Cali- fornia.	Corn- nell.	Yale.	Pro- posed.
Economics, including language.....	20	27	45	27	27	21	45½	45
Business, including surveying.....	41	37	32	27	46	30	51½	45
Technique, including mechanical en- gineering.....	71	66	92	70	91	84	108½	90
Research.....		2	2		2	6+	1	
Electives.....		3				10		
Seminary, advanced work.....						4	3	
Total.....	132	135	171	124	166	155	209½	180

<sup>1</sup> In all courses except at Yale and 5-year proposed about 9 credits are omitted for military drill, hygiene and physical training.

<sup>2</sup> Supplemented by electives; not listed in published outline of courses.

<sup>3</sup> Or more.

<sup>4</sup> Credits for summer field work not included would add 10 to 15 credits.

Here there is considerable variation between colleges. Yale evidently requires a standard of about 20 hours or units per term, while Pennsylvania State even exceeds this. In each case the course permits of practically no electives; so these represent the maximum requirements and greatest rigidity. The standard set by Cornell, California, and Michigan is 16 to 18 hours per term, or a total of about 130 hours for four years. To this in each instance can be added the summer work or term, whether this be one or two seasons. These add from 10 to 20 hours. The additional year brings the total available units to 200 in case of Yale and 175 at California. Cornell, by crediting one term in individual field work with a reasonable number of hours (15), has a total of 150 credits. Pennsylvania State by crowding the load shows 170 credits for four years. To all but Yale 9 credits are added for military drill, hygiene, and personal health. Yale presumably devotes an equivalent time in extracurriculum activities along similar lines.

The effect of an overload is to deprive the student of time which should be devoted to reading and reference work, thoroughness of preparation, and initiative or original thinking, but which may of course in undergraduate work be wasted. Recreation is required, at least by the undergraduate, and for the postgraduate, research, and independent work require a light fixed schedule. There is serious danger, therefore, in endeavoring to crowd into four years a course which should require five years for its completion, or in overloading a five-year course with too great a specialization in any line, if its purpose be not distinctly to specialize.

Assuming a standard of 180 credits for a five-year course, which is 20 less than given by Yale (28 on basis of two hours laboratory for one hour class), how should such a course be balanced for a general professional training? No course can be proposed which will be acceptable to all institutions, even for the purpose outlined, but a standard will serve to call attention to overweight or deficiencies, as well as to emphasize the advantages of five years of training.

TABLE 2.—Credits or units per year, 4 and 5 year courses.

Years.	Four years.				Five years.				
	Michi- gan.	Cali- fornia.	Penn- syl- vania.	Pro- posed.	Cali- fornia.	Corn- nell.	Yale.	Pro- posed.	Unit extras. <sup>1</sup>
Freshman .....	23 <sup>1</sup>	22 <sup>2</sup>	27 <sup>3</sup>	23 <sup>3</sup>	22 <sup>2</sup>	26 <sup>3</sup>	33	34	30
Sophomore .....	32 <sup>1</sup>	32 <sup>2</sup>	40 <sup>3</sup>	36 <sup>3</sup>	30 <sup>2</sup>	30 <sup>2</sup>	41	34	32
Junior .....	32	34	42	36	30	37	41	34	35
Senior .....	29	34	38	36	34	21	40	34	35
Postgraduate .....					24	13 <sup>4</sup>	35 <sup>4</sup>	34	35
Summer field work .....	8	6	14	10	9	7	10 <sup>4</sup>	10	12
Total .....	132	135	171	151	166	144	206 <sup>4</sup>	180	180
Extras .....	9	9	9	9	9	9			9

<sup>1</sup> Plus 4 hours of military drill, hygiene, etc.<sup>2</sup> Plus 5 hours of military drill, hygiene, etc.<sup>3</sup> Plus 1 term of individual work, about 15 credits, and electives not listed in published outline of courses.<sup>4</sup> Cornell also requires 3 months of practical experience and 1 month in forestry camp.

TABLE 3.—Subgroups of subjects, 4 and 5 year courses.

By group of subjects.	Four years.				Five years.			
	Michi- gan.	Cali- fornia.	Penn- syl- vania.	Pro- posed.	Cali- fornia.	Corn- nell.	Yale.	Pro- posed.
Electives .....		3				10 <sup>1</sup>		
Economics:								
Language .....	6	12	24	8	9	6	24	18
Science and arts .....	14	15	21	19	18	15	21 <sup>4</sup>	27
Total .....	20	27	45	27	27	21 <sup>2</sup>	45 <sup>4</sup>	45
Business:								
Mathematics and drawing .....	8	14	6	6	20	6	17	13
Science and arts .....	33	23	26	21	26	24	34 <sup>4</sup>	32
Total .....	41	37	32	27	46	30	51 <sup>4</sup>	45
Total for 2 groups .....	61	64	77	54 <sup>2</sup>	73	51 <sup>2</sup>	97 <sup>4</sup>	90
Technique:								
Physics and chemistry .....	12	18	13	14	27	12	22	15
Engineering .....	9	14	11	9	30	9	7	15
Site .....	10	7	11	10	7	15	12	10
Plants .....	32	17	39	26	17	31	45 <sup>4</sup>	35
Animals and insects .....	4	7	8	6	7	11	15	8
Wood .....	4	3	10	5	3	6	7	7
Total .....	71	66	92	70	91	84	108 <sup>4</sup>	90
Research .....		2	2		2	16	1	
Seminary .....						4		
Advanced work .....						4		
Recapitulation .....	132	135	171	124 <sup>2</sup>	166	159	206 <sup>4</sup>	180

<sup>1</sup> Or more.<sup>2</sup> See electives.<sup>3</sup> Credits for field work not included.

The division proposed is shown in Table 2:

Economics ..... 45, or 25 per cent.

Business ..... 45, or 25 per cent.

Technique ..... 90, or 50 per cent.

The technical subjects are further divided into—

Basic sciences ..... 15-16<sup>1</sup>/<sub>2</sub> per cent.Engineering and practice ..... 15-16<sup>1</sup>/<sub>2</sub> per cent.Sciences and scientific practice ..... 60-66<sup>1</sup>/<sub>2</sub> per cent.

The sciences may be further divided into—

Factor of site.....	10-16½ per cent.
Plants.....	35-58½ per cent.
Woods.....	7-11½ per cent.
Animals.....	8-13½ per cent.

It is in the economic and business group that the greatest deficiencies are ordinarily found. The suggested division of the 45 credits in economics is as follows:

TABLE 4.—*Economics—Subjects arranged by groups, 4 and 5 year courses.*

Group and subjects.	Four years.				Five years.			
	Michi- gan.	Cali- fornia.	Penn- syl- vania.	Pro- posed.	Cali- fornia.	Cor- nell.	Yale.	Pro- posed.
Basis:								
English.....	6	12	12	8	9	6	12	12
Modern language.....			12				12	6
Sciences:								
History.....							6	6
Economics.....	3	9	12	11	12	6	3	9
Economic geography.....							4	
Forest economics.....	7	1	2	2	1	6		3
History of forestry.....	1	1	2	1	1	1	1½	1
Applied sciences:								
Business law.....				2			3	3
Lumber industry.....		3	2		3		1	1
Forest policy.....	3	1	3	2	1	2	3½	4

Of these, English has been the most neglected, so much so that most foresters are greatly handicapped by inability to express themselves, although at that the percentage of efficiency in the use of language is higher than is found in the engineering profession. A modern language should if possible be learned in high school—Spanish for practical use, French or German for research and literature. The need for a better basis in economics, including the history of the twentieth century, is going to increase constantly. One three-hour credit is totally inadequate in economics. In no other line does the forester's education need rounding out so badly. Of the nine credits suggested, three are elementary, permitting the student to take later courses in the principles of organization and management, employment, markets, and other subjects for six additional credits.

Business law has been generally omitted, but deserves a place in the curriculum. The remaining nine credits devoted to forest economics include the general courses usually given to beginners, the history of forestry, and State and National forest policy, with one hour for the economics of the lumber industry.

TABLE 5.—*Business subjects arranged by groups.*

Groups and subjects.	Four years.				Five years.			
	Michi- gan.	Cali- fornia.	Penn- sylva- nia.	Pro- posed.	Cali- fornia.	Corn- nell.	Yale.	Pro- posed.
<b>Basic:</b>								
Mathematics.....	8	12	4	3	15	3	10	10
Mechanical drawing.....		2	2	3	2	3	3	3
Descriptive geometry.....					3		4	
<b>Sciences (economic):</b>								
Accounting.....				6	3		3	3
Forest finance (technical).....	2	2	2	1	2	2	1	2
Surveying and topographic map- ping.....	16	9	10	8	9	14	11	12
Mensuration.....	8	10	8	3	10	3	5 <sup>1</sup>	7
<b>Applied sciences:</b>								
Lumber business.....	3		12				4	2
Management (organization and regulation).....	4	2	6	3	2	5	10	6

<sup>1</sup> Alternative, not included in totals.

In the business group a minimum of 10 credits is indicated for mathematics. This covers trigonometry, analytical geometry, and differential and integral calculus. There may be some difference of opinion as to the necessity of mathematics above trigonometry, but the additional subjects are strongly recommended in a five-year course.

An elementary course in accounting is considered indispensable to a well-balanced forestry course and is the most serious omission in courses as at present arranged. A second course, making six hours, is advisable as a substitute, if necessary for a course in economics (with which this subject is commonly classed). Twelve hours for surveying is intended to thoroughly cover both plane and topographic surveying. This is adequate. Mensuration is best taught by combining lecture and field work in about equal credit weight, i. e., one hour class work to three hours in the field. If this is not possible, sufficient class work should precede the field work to clarify the subject. Seven credits is considered a minimum for effective instruction.

The eight credits allotted in the proposed course to applied subjects are less than are now given at Yale both in lumbering and management. Owing to the synthetic character of both subjects, an analysis of the time allotted by each university which should fall under economics or technique could not be made with certainty. A summary of all this group as proposed shows the following:

Subjects.	Four years.				Five years.			
	Michi- gan.	Cali- fornia.	Penn- sylva- nia.	Pro- posed.	Cali- fornia.	Corn- nell.	Yale.	Pro- posed.
Lumber industry.....	6	11	9	3	10	4	10	9
Policy and management.....	7	5	9	5	3	7	13 <sup>1</sup>	13

TABLE 6.—*Technical subjects, arranged by groups.*

Groups and subjects.	Four years.				Five years.			
	Michi- gan.	Cali- fornia.	Penn- syl- vania.	Pro- posed.	Cali- fornia.	Corn- nell.	Yale.	Pro- posed.
<b>Basics:</b>								
Physics.....	4	3	3	5	12	6	12	15
Chemistry.....	8	10	10	9	10	6	10	
Agricultural chemistry.....		5			5			
<b>Engineering (applied science):</b>								
Forge work.....				1		1		
Elementary mechanics.....					6			3
Advanced mechanics.....					10			
Forest engineering.....	3	4	2	3	4	2	1	3
Lumbering.....	3	7	7	3	7	3	5	6
Forest protection.....	3	3	2	2	3	3	1	3
<b>Factors of site.</b>								
<b>Sciences:</b>								
Meteorology.....						3		1
Mineralogy.....			2			3	2	
Geology.....	4	3	3	3	3	4	4	3
Soils.....		4	3	4	4	5	2	3
Physiography.....			3	3			4	3
<b>Botany, including silviculture.</b>								
<b>Sciences:</b>								
Elementary botany.....	4	4	4	6	4	6	4	4
Morphology and anatomy.....	3		7				8	4
Ecology and physiology.....	2		2	4		4	8	4
Dendrology.....	2	6	7	3	6	6	4	5
Forest pathology.....	4		3	3		6	2	3
Forest ecology or silvics.....	4	2½	3½	3	2½	3	6½	4
<b>Applied sciences:</b>								
Silviculture, natural.....	4	2½	9	4	2½	3	7½	7
Seeding and planting.....	4	2	4	3	2	3	4	4
<b>Zoology, including insects.</b>								
<b>Sciences:</b>								
Biology.....	4	4	3½	3	4	3	4	4
Zoology.....						3	4	
Entomology.....						3	4	
Forest entomology.....		3	4½	3	3	2	3	4
<b>Applied science:</b>								
Fish and game.....								
<b>Wood.</b>								
<b>Sciences:</b>								
Wood technology.....	2	3	4	3	3	3	3	3
Identification, properties, preser- vation.....	2		4	2		3	2	2
<b>Applied sciences:</b>								
Wood-using industries.....			2				2	2

For the technical subjects, including the two lines, engineering exclusive of surveying, and sciences, the allotment of one-half the total is a recognition of the fact that the forester is primarily a technician. The general forestry course as planned can not expect to equip a man as a full-fledged logging engineer unless this is done at the sacrifice of the economic, business, or scientific studies.

It will be observed that the five-year course at California permits a man to complete both the regular four years' work plus the engineering; but this is possible apparently because less foundation is given in some other subjects, as pathology, botany, and silviculture.

It is assumed that either physics or chemistry is a college entrance requirement, and that 15 credits will be sufficient to cover both of these subjects. Elementary mechanics is recommended on the same basis as accounting—as

necessary to take the raw edge off of the forester's ignorance without necessarily making him a logging engineer. The subject is basic in importance. If this is followed by a course in forest improvements and about 6 credits in lumbering, the forester should be able to get by as a superintendent or even manage small operations directly.

Three hours for forest protection are ample to cover the subject, outside of pathology and entomology.

If surveying is included with engineering, the comparison is as follows, exclusive of lumbering and protection:

Subjects.	Four years.				Five years.			
	Michi- gan.	Cali- fornia.	Penn- sylv- ania.	Pro- posed.	Cali- fornia.	Corn- nell.	Yale.	Pro- posed.
Surveying.....	16	6	10	8	9	14	11	12
Mechanical engineering.....	3	3	2	4	19	1	1	6
Total.....	19	9	12	12	28	15	12	18

Nor is this general course intended to create specialists fitted for research in silviculture, technology, or forest protection. Such courses will show the same character of variation which California's five-year course shows for the specialized logging engineering training.

The object of the course as planned for the other branch of technique dealing with the forest as a living organism is not therefore to overload the student with botany, silvics, and ecology, but to cover these subjects adequately. They require greater weight than other sciences, since forestry is primarily the art of growing trees.

Under site factors one credit usually omitted can well be devoted to meteorology. Six may be divided between geology and soils. Mineralogy, on the other hand, may easily be overdone; we are not training economic geologists. It is doubtful whether more than 12 credits should be devoted to botany, exclusive of dendrology. The 8 additional credits required by the Yale course tend to develop specialists in ecology, and the time so spent is needed in economics.

Dendrology can utilize from five to six hours, since this course can be made a connecting link with silvics on the one hand and wood utilization and properties on the other, by discussing the habits, requirements, and properties of the different species.

Three hours each is adequate for forest pathology and forest entomology. The separation of forest ecology, under the term "silvics," from silviculture is proper, and requires three to four hours. Seeding and planting commonly takes four hours. The time devoted to silviculture varies with the amount of instructive field work possible, and in regions of second growth seven hours can be profitably devoted to this subject.

Even with these minimum requirements, scant time is left for the development of zoology leading to fish and game culture, a subject which Cornell has always retained. This is one of the specialties and may increase in importance with the growth of the need for game propagation and protection. Nor can we hope to devote much more than seven hours to wood, either in microscopic study, identification, or treatment.

No effort has been made to present a course giving these studies in sequence. This is a matter which each institution can work out on its own lines. The evidence based on existing courses seems to show unmistakably that a four-

year course unless heavily overloaded excludes not only a desirable proportion of the vitally necessary subjects of economics, English, history, and languages, but that elementary business subjects such as accounting and additional work in mathematics are impossible, while in engineering, mechanics is omitted. Conformity to a single standard is not desirable, but recognition of the general training of a forester as distinct from specialized training calls for a course based if possible on five years following closely the lines indicated.

H. H. CHAPMAN, *Chairman.*

FILIBERT ROTH.

S. N. SPRING.

C. D. HOWE.

P. T. COOLIDGE.

#### MEMORANDUM FROM REPRESENTATIVES OF WESTERN FOREST SCHOOLS.

Following the reading of the committee report by Prof. Chapman a memorandum from representatives of a number of the forest schools situated in the States west of the Mississippi, sent to this conference with the request that it be incorporated in its proceedings, was submitted. The memorandum follows:

DECEMBER 6, 1920.

At a meeting of representatives of western forest schools held here in Spokane to-day certain topics to be discussed at the proposed educational conference in New Haven were considered. We desire to forward to this conference the following statement of our position on certain specific questions:

1. While we believe that a better training in forestry can unquestionably be given in five or six years than can be compressed into four, yet on the basis of our experience and of that of parallel courses in similar fields which have come under our observation, we emphatically believe that the regular four-year course leading to the bachelor of science or bachelor of science in forestry degree must include all the essential subjects of a forestry curriculum, so that the graduates therefrom may be considered fitted to commence their professional career. A longer course will not attract the best type of man in the long run, and hence may even result in the turning out of an inferior product.

2. Modern forestry is a field with such variegated and specialized opportunities for work on the part of the forest school graduate that the training given in these schools should not be crystallized into any one fairly rigid curriculum. Instead, a system of controlled electives, commencing at least as early as the junior year, should permit a student to prepare himself specifically for positions in the United States or State forest services, or the lumber industry in any of its branches. The type of specialization to be developed at each school is of course largely a local matter.

DONALD BRUCE, *University of California.*

HUGO WINKENWERDER, *University of Washington.*

DAVID T. MASON, *University of California.*

FRANK G. MILLER, *University of Idaho.*

THORNTON T. MUNGER, *University of Montana.*

THOS. C. SPAULDING, *University of Montana.*

#### DISCUSSION

Following the Report of the Committee on a Course Leading to the Master's Degree in Forestry.

Prof. Toumey said that he thought the plan presented might be accepted by the conference as an ideal scheme, but that each school must necessarily deviate from it, depending on where that school is located and upon what the demands



upon its graduates are going to be. In this connection Prof. Morrell, of Colorado, felt that more work should be offered on grazing. Prof. Chapman agreed that this was important, but thought that the inclusion of grazing was a matter which had best be left to schools favorably located for teaching it.

Prof. Hosmer suggested that consideration be given to the question of the expense involved. With the present scale of salaries carried by positions to which forest school graduates are eligible, many students feel that they can not afford to spend more than four years at college. The men with a broader training are usually considerably ahead of the four-year men after the expiration of 10 or 15 years. The question is how to impress this fact on the undergraduate with sufficient force so that he will remain for the extra year at college.

In the discussion of the memorandum forwarded by men of the forest schools of the Western States, it appeared to be the opinion of many of those present at the conference that four years was an insufficient time in which to give a student a completely rounded training in forestry that would enable him to meet in full the demands of the profession. If only four years is spent at college the student tends to lack a proper grasp of the whole subject that will enable him to reach the higher places in the profession.

Several speakers expressed as their opinion that, where possible for an individual student to do so, six years of college training was better than five. The net result of the discussion on this point appeared to be that, while the men of the western schools felt that four years was sufficient, it was the opinion of some of the eastern schools that five years should be regarded as the minimum in professional forestry training.

## REPORT OF COMMITTEE ON SPECIALIZATION BY STUDENTS IN THEIR WORK FOR THE PROFESSIONAL DEGREES OF BACHELOR OF SCIENCE IN FORESTRY AND MASTER OF FORESTRY BEFORE THEY HAVE COMPLETED THE GENERAL COURSE COVERING THE FIELD OF FORESTRY.

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*Query:* Should specialization follow or precede conferring of the professional degree?

In accepting this assignment, certain doubts have arisen concerning the exact limit of the topic, since other phases of specialization are being handled by another committee.<sup>1</sup>

In an explanatory letter Dean Toumey interpreted the question as follows:

"To what extent should men be encouraged to specialize after their general science work and before they have had training covering the general field of forestry?"

It is a trite statement that all educational systems are now in a rapid state of evolution. This is particularly true of forestry education, dating back but 22 years in this country. Our profession is changing; new needs have arisen and are arising; new methods must be adopted to provide for them. Agriculture 30 years ago comprised merely field tillage. Now the leading agricultural college in the country trains men for 71 different lines connected with the utilization and conversion of these crops; and to agronomy has been added animal husbandry, and cheese and butter making; even experts in milk distribution are turned out by this institution, believing that the times demand efficient and economical distribution as well as scientific production.

Forestry, like its sister art, agriculture, deals with a land problem. As in the case of agriculture, it is now rapidly expanding, and we at Syracuse are firmly convinced that forest conservation must be practiced in the pulp and sawmill, and in the marts of trade, in order to reduce the drain upon our forests by eliminating waste and putting our manufacturers in a position to adopt the best methods of forestry practice. In short, forestry includes not only crop production—silviculture—but the utilization and distribution of manufactured products, like lumber, paper pulp, etc. So much for the background.

To return to the question asked, under no circumstances would we encourage men to specialize before receiving their professional degree. On the contrary, given time and money we would urge every man who wished to make the most of himself in the forestry profession to take a four years' liberal education—a classical course if you please. After receiving a thorough training in English, modern languages, history, literature, economics, and psychology, with

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<sup>1</sup> In presenting the report the chairman of the committee said: "Before taking up the question it should be announced that the committee has not met, and while views have been exchanged to some degree, it is largely my own presentation. I have outlined the contents of this report to the other members of the committee and requested them to send in individual opinions by mail in case they could not be present."

the usual amount of mathematics and science, he should be thoroughly prepared to take a graduate course in forestry to the extent desired. Such men would not only have a breadth of vision and understanding of actions and reactions and acquaintance with economic laws; they would elevate the whole profession. In addition they would certainly become leaders of thought and molders of sentiment in their various communities along broader lines than forestry. They would possess a tolerance, a philosophy, resources of mind that would make them delightful companions, well-balanced as to soul, able to maintain forestry upon a high plane, which is the ambition of every member of the profession.

Such is the kind of preparation for our profession that should be encouraged in cases where time, funds, and necessary patience are present. The broad vision which characterized the early plans of the forestry movement in America is but a reflection of the liberal education of the leaders of forestry at that time. That the value of the broad cultural education is shared by others can be proven by experience of men teaching science<sup>1</sup> and men employing engineers in an executive capacity.<sup>2</sup>

We regret a change in the entrance requirements of the Yale School of Forestry making prerequisite some sciences and other subjects like mechanical drawing, which makes entrance difficult for B. A. men receiving diplomas from such colleges as Amherst, Williams, and Bowdoin. While it is true that most of these subjects—with the possible exception of mechanical drawing—can be obtained in our classical colleges, the preforestry course would have to be carefully planned.

To us at Syracuse the problem seems different. We do not give a professional degree at the end of four years. We award the straight bachelor of science degree. In addition we consider the men who go into the industries as mere four-year apprentices, and want it clearly understood that no graduate is considered a technical forester until he has received a master's degree.

The war changed many things. Not only did it stimulate educational activities, as the increased enrollment in all our colleges and technical schools proves, but it increased the impatience and the restlessness of the American student, never inclined to prolonged study and patient preparation evidenced by students at continental universities. Always eager, anxious to get into life as soon as possible, the average American student now demands all the short cuts possible. To such men, and probably they are in the majority, the four years of cultural study, plus two to three years of graduate work, is out of the question both from temperamental and financial reasons. Institutions of learning must plan to meet the situation which exists, all the while hoping and planning to change conditions and provide for more prolonged instruction men who are to be leaders in research. Another factor which enters into the educational

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<sup>1</sup> A prominent botanist who for many years has carried on research along lines of forest pathology, himself a graduate of one of the leading State colleges and the recipient of a doctorate from a German university, told me that in his earlier years he had scoffed at the theory that a liberal education gave better mental discipline than science. After 15 years of graduate instruction, during which time he had opportunities to compare men from a near-by classical college specializing in botany and forest pathology, with holders of a B. S. degree whom he himself had taught, the conclusion was forced upon him that the men with liberal education made greater headway, had more poise, greater self-reliance and initiative in attacking new problems than the men trained in science alone.

<sup>2</sup> The president of one of the largest manufacturing concerns in central New York, employing in its many plants and departments engineers from practically every technical school of standing, was asked what he considered the best preliminary education for an engineer. His reply came back instantly, "One of the prerequisites for a broad-gauge engineer who will serve later as an executive is a thorough knowledge of Latin."

problem is the realization by industries of all sorts that the college trained men are, after two or three years of practical work, vastly superior to so-called graduates of the "school of experience." As a result of these conditions we have both the supply (incoming students) and the demand (forest industries) looking in the same direction. Our plan is to bring both supply and demand together to the improvement of the industries and the prolongation of our national timber supply by eliminating or reducing waste by better manufacture and more efficient distribution.

These are the conditions we are trying to meet. Those of us who were fortunate enough to attend the Madison conference realize that we are on the verge of tremendous expansion along technical lines. There is need for men who know about wood structure to take charge of timber preservation; to recommend the use of different kinds of wood to architect and consumer. Automobile, vehicle, and agricultural implement concerns need men who can handle a dry kiln. Paper and pulp concerns are now realizing that the technical men far surpass the rule of thumb paper maker after a year's practical training. It is axiomatic that, unless the industries drawing upon the forest for their raw product can manufacture and sell their products at a profit, we can not expect the practice of forestry by the private owner. Consequently, the introduction of technical men into the industries, increasing the efficiency of manufacture, adding to the effectiveness and economy of distribution, is part and parcel of the forest program and lays upon every school an obligation to meet that condition according to the needs of its own district.

This brings us to a further innovation which may seem heretical to some. We believe that the field of forestry not only includes (1) the production of the raw stock, (2) its utilization, or manufacture of the raw stock into its first stage, but also if the production and manufacture of forest products are to be carried on profitably, (3) they must be distributed with understanding and economy by men who know lumber, its structure, qualities, method of growth, distribution of species, etc. Consequently, we are looking forward to the time when we at Syracuse will prepare men for lumber salesmanship in order that such men, after an apprenticeship of 12 to 18 months with large manufacturing and selling concerns, will be able to recommend the use of wood which will best serve, and be able to distribute it against steel, concrete, beaver board, etc. If this be treason, make the most of it. Thus, to our minds, the field of forestry includes silviculture, lumbering, utilization, courses in paper and pulp manufacture, dry kiln engineering, etc., including courses in preparing men for lumber salesmanship; nor should recreational forestry and wild life specialization be omitted. In sum, any problem which pertains to the nonagricultural areas of our country must be handled by the forester and adequate training should be provided along all lines. So much for our vision.

After much thought and counsel with wood users, we believe that there is, first, a need for as many men as we plan to turn out, and, secondly, that they should be trained in colleges of forestry rather than in engineering schools to serve as *apprentices* to forest industries at the end of four years. Their college training will enable them to learn the practical phases of paper making, lumber manufacture, seasoning or distribution of forest products, with far greater rapidity and thoroughness.

It is realized that four years is a short time in which to train men for a profession combining both engineering and economics, as forestry does. (However, Sheffield Scientific School has but recently increased its requirements from three to four years.) Our plan aims to give during the first two years a broad

scientific training, introducing as many cultural subjects as time will permit. If any man comes to us with advanced credits, he is by no means allowed to elect ahead of his class. Rather, he is urged to avail himself of the resources of the university, on whose campus we are located, and elect extra courses in English, history, economics, language, etc.

The subjects which might be considered a part of the forestry program during the first two years are silviculture, technology, and forest engineering. However, if a man finds during this time he has chosen the wrong profession or has misunderstood the demands which forestry makes upon him, the course is not too specialized to prevent his changing to engineering, agriculture, or a general science course in any university with practically no loss of time.

At the end of the second year men are compelled to spend three months in camp in the Adirondacks, surveying, cruising timber, making topographic maps, building trails and bridges. In short, a general course of training in field methods is given them by their instructors which is intended to round out the theoretical work they have been given during the first two years. It does more than that, it eliminates the weak vessels and gives the faculty a chance to size up each man, to know his possibilities and to determine what particular phase of the ever-broadening field of forestry each student is best suited for. At the end of this summer semester the men return to Syracuse, or in some cases drop out, having discovered that they are not the stuff that foresters are made of. If they come back they are then permitted to elect a group which will prepare them from a certain line of work. Certain subjects are common to every group, being the essentials of a general scientific and forestry education. In this selection the men are aided by instructors who have lived with them in camp for a period of three months and can assist in vocational guidance. This grouping of studies permits students to begin specialization during the third year in college, since they can elect, by choosing a certain group, three subjects in addition to the regular three subjects required. With the inauguration of our paper and pulp work it will probably be necessary to give extra work in chemistry and physics during the sophomore year which will cause a slight deviation from the above.

At the end of the junior year we have arranged a long vacation of five months. Every man is urged to secure a wood or mill job of some sort where he will work not under the eyes of his instructors, but under a regular boss who will demand full work for regular wages. As an instance of the increasing interest which forest industries are showing, it may be said that the placement committee last spring had over 600 positions open for 53 men, juniors and seniors, they were trying to locate. This list comprised only positions where some measure of technical forestry training was required. Seventeen different types of jobs were offered.

Upon his return to college at the end of the junior vacation, his general performance with his employer and his reputation as a technical man is ascertained. Increased opportunity is given for specialization during the senior year, the group which he has elected including only one subject common to all groups, the others varying according to the group selected.

Thus, at the end of the fourth year the men who have chosen to specialize are graduated with a degree indicating a training only in science—the B. S. degree. However, they may have received special training which will make them capable college-trained apprentices for the paper and pulp industries, dry kiln engineering, forest recreation experts, forest engineers, i. e., surveyors, topographic mappers, "growth sharks," etc., knowing something about wood, the basic raw material as an organic product, and having a scientific training

which will make future development certain. Those who have not chosen any particular group receive a training comparable to that which the silviculturalist received in most of our colleges during the past 10 years, and can either continue their studies, specializing during their graduate instruction, or shift for themselves after graduation, as many of our foresters have done in the past.

It goes without saying that after entering the employ of a forest industry additional study will be necessary. We point out to our men that if they wish to develop they should study while working, and that study along technical lines will be to their advantage. Men in the paper industry might take courses in mechanical or chemical engineering at a correspondence school, or even a return to college for a year or more of graduate work might be desirable after a couple of years' experience. Four years is too short a time to turn out the kind of apprentice forest industries are now demanding.

The type of men described above are what we call the four-year vocational men; they are the sergeants, corporals, and shavetail lieutenants of the forest industries—not research men. We appreciate the difficulty, yes, the impossibility, of turning out leaders of research in anything less than five to seven years. It seems that most of the men at the Madison conference failed to differentiate clearly between these two types of men. The four-year man, it goes without saying, is not adequately prepared to handle research as a general rule.

For the technical foresters of research temperament, again a maximum of cultural subjects if possible is recommended. This might necessitate for the holder of a B. A. degree two years' work for a master's degree in forestry and at least three years for a doctorate on account of the possible lack of fundamental sciences. Our largest steel plants and factories of all kinds are now seeing the need for research, and whether or not the Madison laboratories require many men of this type, development of forest industries, we believe, will make an ever larger demand for trained men who can solve the original problems which confront them.

#### SUMMARY OF RECOMMENDATIONS.

1. The ideal forester should possess the broadest fundamental training possible; a classical education if time and funds permit.

2. A condition and not a theory confronts us, since men of limited means, impatient to get to work, are each year entering our State institutions. As a State institution it is our problem to deal as justly by them as we can within the time at their disposal.

3. True forest conservation must provide for elimination or decrease of waste (utilization) as well as increased production (silviculture), and technically trained men are needed to effect these economies.

4. Industries owning and manufacturing forest products should be aided in the economical utilization and distribution of these products, since the practice of forestry by the private owner (four-fifths of our standing timber is privately owned) necessitates foregoing present profits, to be reinvested in timber crops for future harvests.

5. The forest schools have a duty to provide these industries with a better grade of employee, a man having a training in fundamental sciences with some specialization in order that improvements and economies in forest utilization may be effected, to the end that profits for future reinvestment in forestry properties, growing stock, etc., may be assured.

6. We should limit the group of technical foresters to men who have had at least one year of graduate instruction.

7. Leaders of research, men who add to the supply of knowledge which our growing profession requires, should be trained not less than five to seven years, and every school should always urge its best men to return for graduate work.

This is the goal toward which we are working, holding before us always the conception that the foresters of to-morrow, like those of yesterday, must not only be men of sound training but they must also be imbued with the lofty idealism and the spirit of service for which our profession is and always has been renowned.

F. F. MOON, *Chairman*.

R. C. BRYANT.

J. A. FERGUSON.

W. B. HASTINGS.

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#### DISCUSSION.

Several speakers emphasized the need for the forest schools to offer instruction to men who desired work along particular lines or in special subjects closely related to forestry which can be given better at a forest school than in a college of engineering. But it was clearly brought out that students taking only such work were not to be regarded as bona fide foresters. To be recognized as a forester, the student must satisfactorily pass at least the minimum amount of work that the school has set up.

It was further suggested that were the forest schools to be regarded more truly as professional schools than some now are, it would help to foster in the students the professional viewpoint. To this end the ideal forest school should be regarded not as a graduate school but rather as a school of applied science.

## REPORT OF THE COMMITTEE ON THE SCOPE AND CHARACTER OF TRAINING FOR SPECIALISTS IN FOREST PRODUCTS.<sup>1</sup>

A few words as to the origin of this committee may perhaps be helpful as an introduction to its report and recommendations. In January, 1920, Mr. Earle H. Clapp, assistant forester in charge of the branch of research of the Forest Service, raised with a number of forest schools the question as to the training of men planning to take up research or other work in the field of forest products. He pointed out that the experience of the Forest Service for the past 15 years, particularly at the Forest Products Laboratory at Madison, Wis., had shown that, while such men must be thoroughly trained in engineering or chemistry, their usefulness could be greatly increased by a thorough understanding of the fundamentals of forestry and their relation to the forest industries of the country, and suggested the possibility of working out cooperative courses for students in forestry and engineering which would provide a training of this sort. The interest manifested in this suggestion was so general that arrangements were made for the holding of an informal conference of foresters, engineers, and chemists at Madison on July 24, 1920, to discuss the entire question.

This conference indorsed the general principle that men desiring to specialize in forest products work should have, in addition to their basic training in engineering or the physical sciences, a thorough knowledge of wood as an organic product as well as a clear understanding of the fundamentals of forestry. It also arranged for the organization of a committee to go into the entire question in detail and to present a report with recommendations to this general conference on forest education. In order to cover the field as thoroughly as possible, the committee was composed of two professors of forestry, one from the East and one from the West, a professor of civil engineering, an engineer in industrial work, and a member of the Forest Service. While it has been impossible for the committee as a whole to hold any meetings, its members have secured suggestions bearing on its work from nearly a hundred individuals, including a wide representation of foresters, engineers, and chemists in the Forest Service, in educational circles, and in industrial life. These suggestions have proved most helpful and have been freely used in the preparation of this report.

Before taking up specifically the question of education the committee would like to express its emphatic belief in the need for technically trained men in the field of forest products. This applies not only to highly specialized research, whether conducted by public or private agencies, but to the wide variety of commercial operations involved in the handling of wood from the time it

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<sup>1</sup> In connection with this report, attention is called to an article by Hugo Winkenwerder in the October, 1918, issue of the Journal of Forestry, entitled "Some Fundamental Problems in Forestry Education." Dean Winkenwerder is one of the first and most ardent advocates of the principle that it is as much the business of the forest schools to train men for work in forest and wood utilization as for work in forest production.



leaves the tree till it reaches the ultimate consumer. No one questions the need of technical knowledge in the production and use of steel or concrete; yet wood, being more complex, is more difficult to handle efficiently than either of these. It is inconceivable that the industries using wood, with their hundreds of millions of dollars of invested capital, will not turn more and more to technically trained men to handle the infinite number of problems connected with its most effective manufacture, utilization, and sale.

The industries themselves are just beginning to realize this need. Last fall, for example, Mr. Thomas D. Perry, vice president and general manager of the Grand Rapids Veneer Works, called attention to the need for technical information and technically trained men in a half dozen or more representative industries. Among other things he said:

It is doubtful whether any other major group of modern manufacturers gives evidence of less scientific knowledge of its products. \* \* \* A survey, no matter how superficial, would demonstrate that while the woodworker may not have needed the engineer in the past, he certainly needs him now. \* \* \* It follows, therefore, that if the woodworking industry and the engineering profession are to be of mutual benefit a broader aspect and a complete readjustment of attitude are necessary. \* \* \* The field for the engineer in woodworking is almost unlimited, but the development of such a new and untried line will take education, patience, and adaptability on the part of all who are vitally interested in the trades that employ so large a proportion of our citizens.

As a result of this address the American Society of Mechanical Engineers at its meeting in New York earlier this month, held a "forest products session" devoted to the woodworking phases of engineering.

Granting, then, the need for technically trained men in the wood-using industries, the question arises as to the particular form which this training should take. So far, both the Forest Service and the industries themselves have, perforce, turned to men trained primarily as engineers, chemists, or foresters, because no other type of man was available. These men have unquestionably rendered valuable service. In doing so, however, they have practically all been laboring under a distinct handicap, the engineers and chemists because they knew little or nothing of botany and forestry, the foresters because they knew too little of engineering and chemistry. In the judgment of this committee, what is needed is a technologist who knows trees and their products from the biological as well as from the engineering and chemical standpoint, and who is able to connect the industrial aspects of wood utilization with the fundamentals of forest practice and forest conservation.

Wood is an organic product. As such, a knowledge of its composition and structure, of the life processes by which it is produced and of the influence of environment on its physical, mechanical, and chemical properties is essential to its most efficient utilization. From an industrial standpoint, a knowledge of the commercial distribution of the important species of trees, of the effect of different methods of forest management on the character and quantity of material produced, and of the relation between the practice of forestry and the maintenance of an adequate supply of wood as a raw material is equally essential. From whatever angle one approaches the question he finds himself led sooner or later to the living tree and to the forest.

A few specific examples may help to make clearer this interrelation between the biological and physical sciences. Take, for example, timber seasoning. On the face of it this is an engineering problem involving simply the removal of water from the wood. The most elementary work, however, makes it apparent that the method by which this removal can be effected to best advantage depends to a very large degree on the structure of the wood, and this in turn

depends both on the kind of tree and the conditions under which it has been grown. Dendrology, plant physiology, and ecology are thus introduced as factors that can not be ignored. Why is it so much more difficult to dry the southern swamp oaks than the northern upland oaks? The answer is to be found in the field of biology fully as much as in physics or chemistry.

Or take the question of the mechanical properties of wood. We already know that these vary materially with the rate of growth of the tree. This rate of growth in turn depends on the forest conditions under which the tree has been grown, conditions which to a large extent can be controlled by human efforts. The engineer in timber mechanics is thus led at once into the field of silviculture.

Or take the question of decay in structural timbers, railroad ties, pulpwood, or wood pulp. How can one hope to understand or control this without a knowledge of plant physiology and pathology and of organic chemistry? Or take the production of naval stores. Is not a thorough understanding of the biological processes by which resin is produced, of the effect of chipping on these and other aspects of the tree's life, and of the relation between the character of the stand and the amount of resin flow fundamental to the development of efficient methods?

Even in so apparently remote a field as the production of ethyl alcohol from sawdust a knowledge of the processes by which that most wonderful of all laboratories, the living plant, converts one organic substance into another may play a more important part than we now think. The field is so vast and the possibilities so unlimited that we do not at present know enough even to ask intelligent questions regarding a thousand and one problems that will be formulated only by those trained in both the biological and physical sciences. And in whatever line such men may specialize they will find themselves materially helped by a general knowledge of the forest resources from which their raw material comes, of the methods by which these resources may be perpetuated, and of their place not only in individual industries but in the life of the nation as a whole. The point of view which embraces the forest as well as its products constitutes an asset not to be ignored.

The need for men of this type is as real in a wide variety of business positions as in public service. As one forester now in industrial work has expressed it:

The course should aim not only to prepare men for the forest products laboratory and other research but for lumber-sales engineers, creosote wood sales engineers, chemists in the employ of lumber associations, technical-service engineers, wood-using equipment installations and sales engineers, and the many other lines of work in which a technical knowledge of wood and forestry is of basic value. The field for such specialists has hardly been scratched. Hundreds of potential positions of this kind are simply waiting for the men to fill them.

The committee believes that this is by no means an exaggerated statement of the situation. The mere fact that the industries have not as yet demanded men whose technical training included both the biological and physical sciences and the broader aspects of forestry proves nothing but that they have not been available. It is only a question of time when the need, already felt by the Forest Service, will be recognized by the industries as well. How rapidly the present potential demand will develop into an actual demand is, of course, problematical. The committee believes, however, that if the training of such men is begun on a comparatively small scale, it will not be long before the demand for them will considerably exceed the supply. The conclusion seems inescapable that as soon as they prove their worth they will be preferred to those less well equipped for the work at equally good if not better salaries.

The point has been raised that it is already possible for any one who is willing to spend the time and money to obtain an education in practically any combination of subjects that he desires; in other words, that if a man wishes to become proficient in engineering, chemistry, botany, and forestry, the courses to enable him to do this are already in existence. To a considerable extent this is true. Theoretically, any man can, if he desires, take a complete course in mechanical or civil or electrical or chemical engineering, and follow this up by a complete course in forestry, or vice versa. Practically few men have the time or money to take any such combination, while those who have are usually unwilling to make an expenditure which will not apparently yield a corresponding increase in financial remuneration immediately upon graduation. A further difficulty is that many of the courses would not be presented in such an order or such a way as to give the student the best preparation for his subsequent work, and that comparatively little advanced instruction can now be obtained in such specific subjects as kiln drying, wood preservation, timber testing, wood distillation, etc. There appears, therefore, to be as ample justification for the introduction of special courses for the training of men to enter the field of forest products as there was for special courses in such fields as chemical engineering, sanitary engineering, and electrical-railway engineering, all of which are of comparatively recent origin.

The committee feels that the ideal training for any professional man is a four-year course in the liberal arts followed by as many years of specialization as may be needed to train him for work in his chosen field. Such a combination gives a breadth of view and a background for a man's professional work and other activities that can be obtained in no other way. The committee recognizes, however, that this ideal is impossible of general accomplishment, and that the demand both on the part of industry and of the students themselves for a preparation that will enable them to take up their professional work in the shortest possible time makes it necessary to offer opportunity for early specialization. The committee therefore recommends the inauguration of courses which will enable a man to complete the necessary foundation work in four years and to do a certain amount of specialization in the fifth year. In doing so, however, it wishes it clearly understood that it does not regard it as possible to turn out a thoroughly trained specialist in five years, and that it believes at least one or two years of additional graduate work to be necessary for this purpose.

The committee believes that the essential basis for an adequate course in forest products consists of a thorough training in the fundamental sciences of mathematics, physics, chemistry, and botany. With these as a foundation their practical application to specific problems is comparatively easy. Some training in the more directly applicable of the applied sciences is, of course, highly desirable and even essential. As a general rule, however, it is more important for the student to know why rather than merely how; principles are more valuable than isolated facts. On the other hand, these principles should not be taught in the abstract, but should be given life and interest by teaching them so far as possible with special reference to the student's future activities.

Fundamental work in the pure sciences should be concentrated in the first two years and largely completed by the end of the third year. It should be followed and to some extent accompanied in the third and fourth years by work in the applied sciences, such as steam and gas power, electrical engineering, machine design, forest mensuration, chemical technology, wood distillation, timber testing, etc. Then in the fifth and subsequent years opportunity should be afforded for advanced work in the particular field which the student plans

to enter, as, for example, in the mechanical properties of wood, the seasoning of timber, the chemistry of cellulose compounds, etc.<sup>2</sup>

In accordance with this general outline, the committee presents tentative curricula of possible courses for the training of engineers and chemists in forest products, not because it anticipates that such curricula will be followed in toto by any institution but as indicative of the ground which it feels should be covered. It realizes perfectly that in the inauguration of work of this sort different institutions will go at it from different points of view, and will desire both to cover somewhat different ground and to cover the same ground in a different way from that suggested. The committee is under no illusion as to the perfection of the suggested courses and believes that in the formative stage of instruction along this particular line rigid standardization is neither desirable nor possible.

With this general statement as to the purpose of the curricula a brief explanation of the reasons for the inclusion or exclusion of certain subjects may be in order. Entrance requirements are included primarily to show the ground assumed to have been covered in the preparatory school as a basis for the college courses prescribed. Those indicated have been selected as representing approximately the present average in spite of the fact that the committee feels that they are rather low and could well be strengthened by the addition of from one to two extra units each in science and mathematics, particularly chemistry, biology, botany, advanced algebra, and trigonometry. If this were done, the two units of foreign language might perhaps be omitted, particularly in view of the fact that they are not to be followed up in college. On the other hand, the very fact that cultural subjects are practically excluded from the college course may make it desirable to require some preparatory school training in them.

Lack of available time has made it necessary to omit such subjects as English literature, logic, modern language, history, sociology, psychology, and philosophy in spite of their obvious cultural, and even professional, value. Acquaintance with the foreign literature pertaining to an individual's particular field will have to be maintained through abstracts and through general or special translations. The committee regards these omissions as a distinct weakness and suggests that students presenting advance credits be encouraged, if not required, to elect cultural subjects such as those mentioned, rather than additional technical work. It regrets very much that it was not able to find room for a third or fourth year course in report writing, including the analysis, preparation, and presentation of data, and urges that special attention be given to these subjects, in which most technical men are weak, in connection with other courses.

The introductory lectures are intended to acquaint the student with the broad fields of engineering, chemistry, and forestry, and to give some idea of

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<sup>2</sup> In connection with this paragraph Dr. Hatt comments as follows: "While the traditional curriculum provides for the so-called fundamental subjects for the first two years, which are mathematics, physics, and chemistry, there is a growing belief on the part of educators that the student should be introduced to concrete engineering problems during his first two years, and that a greater power in the use of these fundamental sciences will be gained when they are associated with simple engineering projects. Such evidence as we have shows this device to be of value.

"There is a tendency also to distinguish between the training of the designer of bridges or machines and the constructor or operator. The first group will be given a wider and more thorough training in analysis and pure science. The latter will take less of abstract studies and more work in the college of commerce and business, in the study of shop management, etc."

the location, abundance, and importance of the raw materials on which these are based. Elementary surveying has been included in spite of the fact that the work of forest products technologists will ordinarily lie indoors, because of the fact that some knowledge of the use of surveying instruments and surveying practice may be of direct value in connection with their regular work. Manual training in the form of wood work, forge, and machine shop is suggested both to train the students to use their hands and to give them through actual contact a first-hand knowledge of some of the more important tools of their profession. Enough of the practice of forestry has been included to enable the technologist to connect wood and other forest products with the growing forest and with the general principles of forest conservation. The principles of political economy and their practical application in industrial organization and management have been included to enable the technologist to correlate his technical specialty with economic conditions and to rise to administrative positions obviously requiring a knowledge of such matters. In the committee's judgment a clear understanding of the principles of economics and of their practical application in business life is almost as essential for the successful engineer or chemist in forest products as a thorough technical knowledge of his specialty.

The value of the other subjects included, because of their direct bearing in the field of forest products, is believed to be self-evident. The number of hours which should be devoted to each subject is, of course, a highly debatable point, and the committee's suggestions in this respect are decidedly tentative. It will be noted that the total number suggested (144 in four years) coincides very closely to that proposed by the committees on undergraduate and graduate courses in forestry.

The tremendous amount of ground to be covered has made it impossible to offer any opportunity for a choice of electives during the first four years. Beginning with the third year, however, two slightly divergent branches are suggested, depending on whether the individual desires to specialize in the engineering or the chemical end of the work. This specialization will naturally be still more marked in the fifth and subsequent years, during which the man should devote his time to advanced work in the particular field he plans to enter. It is also possible that those showing special aptitude early in the course might, with the consent of their faculty adviser, be allowed some choice of subjects prior to this time. The first two years are the same for both lines of work (engineering and chemical), and have been made to agree as nearly as practicable with the courses most commonly required of students in the various schools of engineering, science, and forestry. This will give the student a substantial foundation for almost any line of technical work, and at the same time will facilitate changing his course should he decide later that he prefers to enter some other line.

At this point the committee desires to emphasize again the importance of the fifth year for those who aspire to leadership in either the scientific or business world. This is particularly true in the field of research, for leadership in which the completion of work leading to the degree of doctor of philosophy is highly desirable. And for those who can spare the time, additional collegiate work in the liberal arts is decidedly worth while. The committee recommends as an excellent combination a four-year course leading to the degree of bachelor of arts, so arranged as to include at least the first two years of the special course suggested and followed by the remaining two years of technical work leading to the degree of bachelor of science.

One difficulty in the introduction of a special course in forest products will be the tendency to construct it out of a combination of the courses already in

existence. To a certain extent this will undoubtedly be necessary. Most of the courses in pure science, for the present at least, will probably have to be taken in substantially their present form, although it would be highly desirable and in some cases may prove possible to give them with special reference to the student's future work. In the applied sciences this should prove still more feasible and the bulk of the work should have some direct bearing on the field of forest products. Thus in the study of engineering materials special attention should be paid to wood rather than to steel or concrete; in machine design to sawmill and woodworking machinery; in forest mensuration to the measurement of logs, cordwood, and standing trees rather than to stem analysis and the preparation of yield tables, etc. In some cases new courses will undoubtedly have to be introduced. An example of this is the so-called course in the "Practice of forestry," the aim of which is to give the engineer or chemist in forest products a bird's-eye view of the more essential features of silviculture, forest management, forest valuation, and forest regulation.

As education in the field of forest products develops and becomes more firmly established, the natural evolution will be toward modifications looking to the inclusion of essentials and the elimination of nonessentials. Short cuts will undoubtedly be devised, new courses will be added or substituted for old ones, and the weak spots in existing courses will be strengthened. The underlying principle should be to have each subject taught, not as an end in itself, but as an integral part of a homogeneous course aimed to give the student the best possible equipment in the time available for a specific field of work. To do this effectively the instructor should have not only a thorough technical knowledge of the fundamental and applied sciences pertaining to his particular subject, but at the same time the necessary point of view. Such men are at present comparatively rare, and it may be some time before any considerable number of thoroughly competent instructors will be available.

In this connection the committee would like to emphasize the desirability of enlisting the student's interest and giving him the right point of view from the very beginning of this course. To a considerable extent this can be done by extra curriculum activities, such as the organization of student clubs and the giving of special lectures by foresters, engineers, chemists, business men, and others of prominence and reputation in their respective fields. Such activities can well be made to play an important and helpful part in the student's training.

These suggestions constitute the broad outlines of the scope and character of special courses for the training of technologists in the field of forest products. Who should take the leadership in securing their introduction? In the judgment of the committee this is a duty which devolves primarily upon the foresters and forest schools of the country. Careful analysis of the proposed courses will show that they contain many subjects quite foreign to the curricula of the engineering schools, such as botany, plant physiology, tree diseases and injuries, and forest mensuration. Such subjects as silvics, wood technology, engineering mechanics, and practice of forestry are equally foreign to the colleges of science. On the other hand, hardly a subject is included which is not already required or might logically be required by some forest school. Practically all of the forest schools now give at least elementary instruction in such subjects as timber tests, kiln drying, wood distillation, and wood preservation. A good deal of engineering and chemistry is already required by those offering advanced work in these lines and in logging engineering. To require such additional instruction in these fields as might be necessary would be but a step, and would be wholly in line with the development of forest education.

From still another angle leadership in the matter falls upon the foresters. Forestry as a profession aims primarily at the conservation and perpetuation of our forest resources. In attaining this end it must take into account three distinct but closely related fields of activity—(1) raising the forest crop (silviculture and forest management), (2) harvesting the forest crop (lumbering and logging engineering), and (3) utilizing the forest crop (wood utilization). Underlying all three is forest economics. The way in which each of these fields is handled reacts directly upon the effectiveness with which our forests are used and must necessarily be a matter of concern to the forester. So far foresters have interested themselves in these activities in approximately the order named. The production of the forest crop for a time absorbed practically their entire attention. Then they became interested in its harvesting and turned to the technically trained logging engineer. Now their attention is being attracted more and more to its utilization, with an increasing realization that the way in which this is handled has a very direct bearing on forest conservation. Furthermore, the very fact that wood is an organic product and that its utilization is closely connected with its production and its harvesting make it highly desirable that men working in the field of forest products should have the forester's point of view, which can of course be secured to best advantage if the leadership in their training is taken by the forest schools.

Obviously this does not mean that all of the work must be given in departments or schools of forestry. Even those forest schools which go farthest in this direction do not attempt to give all of the required subjects. In the judgment of the committee the exact amount of work which should be given in the various departments or colleges is a matter to be worked out locally. In some cases a considerable number of subjects, such as mathematics, physics, chemistry, engineering, mechanics, machine design, steam and gas power, etc., can undoubtedly be given to best advantage in the colleges of engineering or science, while the work in wood identification and structure, tree diseases and injuries, forest mensuration, the practice of forestry, timber seasoning, wood preservation, wood distillation, etc., would naturally be given in the forest schools. In other cases the forest schools themselves may desire to go somewhat further than this. The important point is that the work should be developed under the leadership of the forest schools in as close cooperation with the other colleges as local conditions make desirable.

The committee feels that it is also important that the work should be undertaken at first at a comparatively small number of institutions having strong staffs in both forestry and engineering. It is obviously not within the province of the committee to suggest what institutions these should be. It does, however, wish to emphasize the fact that in its judgment there is danger in having the work undertaken too generally and by schools not thoroughly equipped to handle it. After it is once well under way at a few institutions and the best lines of development have been indicated by actual experience, it can be extended to others as rapidly as the need for additional men becomes apparent. This raises the entire question of promoting economy and efficiency in forest education by having different schools specialize along different lines.

The question as to the degree or degrees which should be granted men with this sort of training seems to the committee of comparatively minor importance at this time. At the end of four years the degree of B. S. would seem to be appropriate. At the end of five years there are several possibilities. Among these may be mentioned master of science in engineering, in chemistry, or in forestry, engineer in forest products, chemist in forest products, and master of

forestry. Some have suggested the advisability of granting no degree at the end of four years in order to provide an additional incentive for men to stay through the fifth year. The creation of new degrees has also been suggested, and the committee sees no objection to this if the institutions at which the work is given feel that at present they have no degree sufficiently descriptive of the training secured to be satisfactory.

Whatever degree may be decided on, the committee feels that men with such a training as it has suggested would be qualified to handle the great bulk of the problems encountered in the field of wood utilization, whether in private industry, in educational institutions, or in public service. At the same time it recognizes the fact that there will be occasional problems requiring the services of technical men in allied fields, such as mechanical engineering and organic chemistry. Such problems will, however, be the exception rather than the rule. In this connection the committee expresses the hope that the Forest Service will encourage the development of courses along the lines indicated by giving preference in civil-service examinations, through the rating of training and experience, to men with the combined training suggested.

Much hard work must be done before such courses can be satisfactorily formulated and effectively given. The committee realizes only too well that it has made little more than a beginning and that the suggestions which it has been able to offer are far from the last word on the subject. If they stimulate and point the way to further action, they will have served their purpose. Comprehensive and thoroughgoing studies must still be made of the precise duties and requisite qualifications of men in forest products work. The particular combination of subjects best suited for the preparation of such men must be determined. Innumerable practical details in the introduction of new courses, the modification of old ones, and the construction of new curricula must be worked out. This is primarily a task for the forest schools. It is, however, one in which the profession as a whole can be of material assistance. The committee, therefore, recommends the appointment by the Society of American Foresters of a committee to continue the work which it has begun. This committee, in which representatives of the forest schools should, of course, play a prominent part, could render a real service by conducting further investigations, making specific recommendations, and cooperating with educational institutions in formulating and securing the introduction of such curricula as may be deemed advisable.

In conclusion, the committee desires to emphasize the following points:

1. That there is a very large and as yet undeveloped field for the employment of technically trained men in the utilization of forest products.
2. That these men should have a thorough fundamental training in mathematics, physics, chemistry, and botany as a basis for later specialization in any given line, together with sufficient forestry to give them the forester's point of view.
3. That the special four-year curricula suggested should, if possible, be preceded by collegiate work in the liberal arts and followed by graduate work in the individual's chosen field.
4. That the forest schools, in cooperation with schools of engineering and science, should take the leadership in securing the introduction of such curricula.
5. That at the outset the work should be undertaken at comparatively few institutions and extended later as the opportunities and demand for such men become more apparent.



6. That the Society of American Foresters should appoint a committee to consider more fully such questions as the need and opportunities for men of this type, their precise duties and qualifications, the exact ground which should be covered in their training, and ways and means of providing adequate opportunities for such training.

S. T. DANA, *chairman*.  
W. K. HATT,  
R. S. HOSMER,  
C. E. PAUL,  
HUGO WINKENWERDER.

### SUGGESTED COURSES FOR THE TRAINING OF ENGINEERS AND CHEMISTS IN FOREST PRODUCTS.

#### *Entrance Requirements for Engineers and Chemists.*

Required:	Units.	Optional:	Units.
English .....	3	Advanced algebra .....	$\frac{1}{2}$
French or German (both units in same language) .....	2	Biology, botany, or chemistry ..	1
History .....	1	Civics and American Govern- ment .....	$\frac{1}{2}$ -1
Algebra .....	$1\frac{1}{2}$	Drawing .....	$\frac{1}{2}$ -1
Plane geometry .....	1	Economics .....	$\frac{1}{2}$ -1
Solid geometry .....	$\frac{1}{2}$	English .....	1
Physics .....	1	French, German, Spanish, or Greek .....	1-3
Total .....	10	History .....	1-3
		Latin .....	1-4
		Physical geography, geology, zoology, or physiology .....	$\frac{1}{2}$ -1
		Trigonometry .....	$\frac{1}{2}$ -1
		Vocational, industrial, or com- mercial subjects .....	$\frac{1}{2}$ -3
		In all .....	5

#### *College Curriculum for Engineers.*

##### FIRST YEAR.

FIRST SEMESTER.	Hours.	SECOND SEMESTER.	Hours.
English (1) <sup>1</sup> .....	3	English (1) .....	3
Advanced algebra and trigonometry (3) .....	4	Analytic geometry (4) .....	3
Chemistry (10) .....	3	Chemistry (10) .....	3
Botany (29) .....	3	Botany (29) .....	3
Drawing (6) .....	3	Drawing (6) .....	3
Wood work (8) .....	2	Forge shop (9) .....	1
	18	Introductory lectures (2) .....	2
			18

##### SECOND YEAR.

Differential calculus (5) .....	3	Integral calculus (5) .....	3
Physics (18) .....	3	Physics (18) .....	3
Physics laboratory (19) .....	2	Physics laboratory (19) .....	2
Qualitative analysis (11) .....	4	Quantitative analysis (12) .....	4
Plant physiology (30) .....	3	Silvics (32) .....	3
Dendrology and forest distribution (31) .....	3	Elementary surveying (7) .....	3
	18		18

<sup>1</sup> Numbers in parentheses refer to the accompanying description of courses.

Between the second and third years each student is required to spend at least 10 weeks in some kind of woods work, as, for example, at a logging operation, at a summer forestry camp, or in timber reconnaissance or similar work with the United States Forest Service or other forest organization.

## THIRD YEAR.

FIRST SEMESTER.		SECOND SEMESTER.	
	Hours.		Hours.
Engineering mechanics (20)-----	4	Engineering mechanics (20)-----	4
Mechanical laboratory (21)-----	1	Mechanical laboratory (21)-----	1
Organic chemistry (13)-----	3	Organic chemistry (13)-----	3
Steam and gas power (22)-----	3	Forest mensuration (36)-----	2
Plant pathology (33)-----	3	Tree diseases and injuries (34)-----	4
Wood technology (35)-----	4	Wood technology (35)-----	4
	18		18

Between the third and the fourth year each student is required to spend at least 10 weeks in connection with one or more wood-using industries.

## FOURTH YEAR.

FIRST SEMESTER.		SECOND SEMESTER.	
	Hours.		Hours.
Economics (39)-----	3	Economics (39)-----	3
Practice of forestry (37)-----	3	Industrial organization and adminis-	
Machine design (23)-----	3	tration (40)-----	3
Hydraulics (24)-----	3	Electrical engineering (26)-----	3
Masonry construction (25)-----	3	Engineering materials (27)-----	3
Lumbering and wood-using industries		Structural design (28)-----	3
(38)-----	3	Wood-using industries (38)-----	3
	18		18

## FIFTH YEAR.

Advanced work, chiefly elective, along such lines as—

Timber physics,  
Timber mechanics,  
Wood utilization,

Wood technology,  
Wood preservation,  
Structural engineering and design,

and including regular seminar work and the preparation of a thesis.

## OTHER GRADUATE WORK.

To include research along the specific lines in which the individual student desires to specialize.

*College curriculum for chemists.*

## FIRST YEAR.

FIRST SEMESTER.		SECOND SEMESTER.	
	Hours.		Hours.
English (1)-----	3	English (1)-----	3
Advanced algebra and trigonometry (3)-----	4	Analytic geometry (4)-----	3
Chemistry (10)-----	3	Chemistry (10)-----	3
Botany (29)-----	3	Botany (29)-----	3
Drawing (6)-----	3	Drawing (6)-----	3
Woods work (8)-----	2	Forge shop (9)-----	1
	18	Introductory lectures (2)-----	2
			18

## SECOND YEAR.

FIRST SEMESTER.		SECOND SEMESTER.	
	Hours.		Hours.
Differential calculus (5)-----	3	Integral calculus (5)-----	3
Physics (18)-----	3	Physics (18)-----	3
Physics laboratory (19)-----	2	Physics laboratory (19)-----	2
Qualitative analysis (11)-----	4	Quantitative analysis (12)-----	4
Plant physiology (30)-----	3	Silvics (32)-----	3
Dendrology and forest distribution (31)-----	3	Elementary surveying (7)-----	3
	18		18

Between the second and the third year each student is required to spend at least 10 weeks in some kind of woods work, as, for example, at a logging operation, at a summer forestry camp, or in timber reconnaissance or similar work with the United States Forest Service or other forest organization.

## THIRD YEAR.

FIRST SEMESTER.		SECOND SEMESTER.	
	Hours.		Hours.
Engineering mechanics (21) .....	4	Engineering mechanics (21) .....	4
Mechanical laboratory (22) .....	1	Mechanical laboratory (22) .....	1
Organic chemistry (13) .....	3	Organic chemistry (13) .....	3
Organic synthesis and analysis (14) ..	2	Organic synthesis and analysis (14) ..	2
Plant pathology (33) .....	3	Tree diseases and injuries (34) .....	4
Wood technology (35) .....	4	Wood technology (35) .....	4
	17		18

Between the third and the fourth year each student is required to spend at least 10 weeks in connection with one or more wood-using industries employing chemical processes.

## FOURTH YEAR.

FIRST SEMESTER.		SECOND SEMESTER.	
	Hour.		Hour
Economics (39) .....	3	Economics (39) .....	3
Practice of forestry (37) .....	3	Industrial organization and adminis- tration (40) .....	3
Physical chemistry (15) .....	3	Physical chemistry (15) .....	3
Chemical technology (16) .....	4	Electrical engineering (26) .....	3
Forest mensuration (36) .....	2	Industrial analysis (17) .....	3
Lumbering and wood-using industries (38) .....	3	Wood-using industries (38) .....	3
	18		18

## FIFTH YEAR.

Advanced work, chiefly elective, along such lines as—

Derived products,  
Wood preservation,  
Cellulose chemistry,  
Biochemistry,  
Physical organic chemistry,  
Chemical industries,

and including regular seminar work and the preparation of a thesis.

## OTHER GRADUATE WORK.

To include research along the specific lines in which the individual student desires to specialize.

*Brief description of courses.*

1. *English*.—Composition, rhetoric, and general literature, with particular emphasis on the clear and logical presentation of facts and ideas. (E and C, I, 1 and 2.)<sup>3</sup>

2. *Introductory lectures*.—A general survey of the fields of engineering, chemistry, and forestry, indicating briefly the character of work, opportunities open, kind, extent, and distribution of the principal raw materials used, etc. (E and C, I, 2.)

3. *Advanced algebra and trigonometry*.—College algebra beyond quadratics; plane trigonometry. (E and C, I, 1.)

<sup>3</sup> Letters and numbers in parentheses following each course indicate whether it is for engineers or chemists (or both), and the year and semester in which it is given. Thus, E and C, I, 1 and 2 indicate that the course is for both engineers and chemists and that it is given in the first year, first and second semesters; C, IV, 1, that the course is for chemists and is given in the fourth year, first semester, etc.

4. *Analytic geometry*.—Plane and solid analytic geometry. (E and C, I, 2.)
5. *Calculus, differential and integral*.—Principles of differential and integral calculus applied to functions of one and several variables. (E and C, II, 1 and 2.)
6. *Drawing*.—Lettering, mechanical drawing, free-hand drawing, and machine sketching. (E and C, I, 1 and 2.)
7. *Elementary surveying*.—Use of surveying instruments; fundamental surveying methods; measurement of lines, angles, and areas. (E and C, II, 2.)
8. *Woodwork*.—Use and care of bench and lathe tools, and of woodworking machinery; preliminary exercises in pattern making, joinery, and cabinet work. (E and C, I, 1.)
9. *Forge shop*.—Forging, welding, tool dressing, tempering, etc. (E and C, I, 2.)
10. *Chemistry*.—General theory; classification and properties of nonmetals, metals, and their compounds. (E and C, I, 1 and 2.)
11. *Qualitative analysis*.—Principles and practice of qualitative analysis. (E and C, II, 1.)
12. *Quantitative analysis*.—Gravimetric and volumetric determinations, including electrolytic methods and the calibration of weights and volumetric apparatus. (E and C, II, 2.)
13. *Organic chemistry*.—Composition and characteristics of the principal classes of organic compounds, with emphasis upon class reactions and structural theory, and with special reference to wood and other forest products. (E and C, III, 1 and 2.)
14. *Organic synthesis and analysis*.—Preparation and analysis of typical organic compounds. (C, III, 1 and 2.)
15. *Physical chemistry*.—Constitution and structure of matter; general properties of gases, liquids, and solids; phenomena of solutions; colloids; electrochemistry; thermochemistry. (C, IV, 1 and 2.)
16. *Chemical technology*.—Application of chemical and physical principles to problems of chemical manufacture, together with the principles of standard types of machinery and apparatus used by the chemical industries. (C, IV, 1.)
17. *Industrial analysis*.—Analysis of a variety of materials in common industrial use, with emphasis on the significance of procedure and results. (C, IV, 2.)
18. *Physics*.—Fundamental principles of gravitation, heat, light, sound, mechanics, magnetism, and electricity. (E and C, II, 1 and 2.)
19. *Physics laboratory*.—Physical measurements and experiments in the fields covered by Course 18. (E and C, II, 1 and 2.)
20. *Engineering mechanics*.—Theoretical and applied mechanics, including fundamental concepts and general principles of equilibrium and motion; statics, kinetics, and mechanics of materials; application of principles and methods to engineering problems. (E and C, III, 1 and 2.)
21. *Mechanical laboratory*.—Experiments on engines, turbines, pumps, boilers, and other machines; shop practice on the drill, lathe, planer, and other standard machine tools. (E and C, III, 1 and 2.)
22. *Steam and gas power*.—A general study of steam and gas power plants and equipment; relative costs and advantages of different types and sizes of machinery; combustion, handling, and storage of fuels used in power plants. (E, III, 1.)
23. *Machine design*.—Design of machines and machine parts, including advanced drawing, and with particular reference to sawmill and woodworking machinery. (E, IV, 1.)
24. *Hydraulics*.—Hydrostatics and hydrodynamics, including water pressure, water flow, friction, etc. (E, IV, 1.)
25. *Masonry construction*.—Principles and design of masonry structures, including the properties of concrete and reinforced concrete. (E, IV, 1.)
26. *Electrical engineering*.—Essentials of electrical engineering, including the generation, transmission, and application of electrical power. This and Course 22 together cover the subject of prime movers. (E and C, IV, 2.)
27. *Engineering materials*.—Properties and requirements for materials, particularly wood, used in engineering construction; effect of methods of manufacture upon the quality of the material; specifications and standard tests used to secure acceptable grades of material. (E, IV, 2.)
28. *Structural design*.—Computation of stresses; design of columns, beams, and girders; building laws and specifications. (E, IV, 2.)
29. *Botany*.—Studies of the form, structure, life processes, and (briefly) classification of the principal groups of plant life. (E and C, I, 1 and 2.)

30. *Plant physiology*.—Absorption, nutrition, growth, and reproduction, with special reference to woody plants. (E and C, II, 1.)

31. *Dendrology and forest distribution*.—Identification, classification, and distribution of trees and shrubs, with special reference to those of commercial importance. (E and C, II, 1.)

32. *Silvics*.—Relation between trees and forests and their environment; life history of the forest; silvical characteristics of the more important timber trees and types. (E and C, II, 2.)

33. *Plant pathology*.—Nature, cause, and control of plant diseases, with special reference to diseases of trees. (E and C, III, 1.)

34. *Tree diseases and injuries*.—Detection, prevention, and eradication of tree diseases and wood decay; relation between decay and such processes as air drying, kiln drying, gluing, painting, creosoting, etc.; effect of fire, insects, lightning, wind, frost, etc., on trees and their products. (E and C, III, 2.)

35. *Wood technology*.—Gross and microscopic structure and physical, chemical, and mechanical properties of wood, with special reference to its identification and uses, and including a consideration of defects. (E and C, III, 1 and 2.)

36. *Forest mensuration*.—Form and content of trees and logs, with special reference to the measurement of standing timber and of logs, cordwood, and other forest products. (E, III, 2; C, IV, 1.)

37. *Practice of forestry*.—Place of forestry in the life of a nation; elementary principles and practice of fire protection, silviculture, forest management, forest organization, and forest administration. (E and C, IV, 1.)

38. *Lumbering and wood-using industries*.—Brief survey of the methods of logging and milling in the principal forest regions of the United States, including grading rules; consideration of the principal wood-using industries, with special reference to their economic importance, woods used, and methods of operation. (E and C, IV, 1 and 2.)

39. *Economics*.—General principles of economics, including production of wealth, business organization, value and price, money and banking, trade and commerce, distribution, labor problems, transportation, public finance, etc. (E and C, IV, 1 and 2.)

40. *Industrial organization and administration*.—Modern methods of industrial organization, administration, and production, including such factors as methods of planning work and insuring production, administrative reports, time-keeping and cost-finding systems, plant location and arrangement, etc. (E and C, IV, 2.)

#### COMMENTS BY DEAN WINKENWERDER.

In connection with the curricula I want to go on record with reference to the following points:

(a) I believe the committee should make a distinction between the type of individual that will become primarily a research man (either in the Government service or in the industries) and the type that will enter the industrial field with a view to working into the administrative or business end of the industry. This distinction can readily be made by adopting the elective system. The demand for men trained in forest products will be many times greater in the latter than in the former field. The curricula as presented are, to my mind, arranged primarily for training research men.

(b) The Elective System. The modern method in education is the elective system. In technical courses such as these, a system that prescribes certain fundamentals and ends with advanced, highly specialized work, admission to which is guarded by carefully selected prerequisites, has many advantages. It opens up a wide field for specialization in that it can be adjusted to meet any specific needs; yet keeps the curriculum simple and makes it easy to administer. Fundamental courses will serve as general prerequisites and breadth of training. The prerequisites to the advanced courses will lend purpose and direction to the work of the student and prevent him from dissipating his energies over a large number of unrelated subjects. The final advanced courses, if properly organized, will tie in the theoretical work with the actual work the graduate will be called upon to do when he leaves the university. In courses acknowledged by the committee to be merely suggestive and which will need to be modified from time to time as we learn more specifically the nature of the

work to be done by the graduate, it would certainly seem that the elective system would lend itself far better to the conditions than a definitely prescribed curriculum.

(c) It is now quite generally conceded among educators that the five-year curriculum is not working out satisfactorily, because the majority of students will not stay five years. This means that much of the work will have to be complete in and of itself, i. e., we shall have to prepare the student to fit into some definite job at the end of his fourth year, and this will be possible for many of the industrial jobs. This will mean that a great deal of the work scheduled for the fifth year, particularly in the engineering course, will need to be given to the undergraduates.

#### DISCUSSION OF THE REPORT ON THE SCOPE AND CHARACTER OF TRAINING FOR SPECIALISTS IN FOREST PRODUCTS.

Prof. B. F. Brann, of the University of Maine, outlined the work done at that institution to train men for the pulp and paper industry; the graduate is a chemical engineer with a general knowledge of forestry.

Dean Toumey pointed out the danger that courses on specific details and technique tended to make the student an artisan and to get away from the ideal of what a fundamental education should be. Proper training should ground the student in fundamentals and develop in him the power of philosophical reasoning.

Mr. C. P. Winslow, of the Forest Products Laboratory, Madison, Wis., emphasized the point made by Dean Toumey. If a man specializes too intensively as an undergraduate, he may find later that his interests lie in a different direction; a broader and more fundamental training is of greater value. This has been proved to be true at the Forest Products Laboratory. There is an increasing demand and good field for men that might be called forest-products engineers. But to get the necessary training takes more than four years. One trouble at the laboratory has been to get men from college who have both the fundamental background, plus knowledge of some particular branch, like chemistry. Many men have had to get this after coming to Madison. The demand at the laboratory is not great enough to justify the forest schools in developing men for that work alone, but there is a demand for such men in the industries. The forest schools are in a position to meet this need. The important thing is to establish a good four-year undergraduate course on which those who wish to go on for further study can base specialized work in one or more particular lines. Such well-grounded men will be able to progress satisfactorily in a variety of wood-working industries.

In answer to a question as to what salary such a man might expect (with regard to its bearing on inducing him to remain longer at college), Mr. Winslow replied that generally the graduate is looked upon as an untried man and is paid accordingly. Men who have had training subsequent to college may get \$3,000 to \$4,000, with an arrangement for a bonus on the sales that they increase. If such men can develop the industry, they are apt to rise fast. One man of 28, five years out of college—two and a half at the laboratory and an equal time in educational work—went to a commercial company at a salary of \$5,000. The minimum salaries that are offered men who have been at the laboratory two or three years range around \$3,000 up to \$6,000 or \$7,000.

Profs. Moon and Hosmer both emphasize the point that there was need for two types of men: (1) The man who had had four or five years at college and begins as an apprentice, as it were, developing his vocation while learning the industry; and (2) the man of research type who, after five to seven years of college work, emerges as a highly trained specialist. The schools can provide definite courses for the first type; for the latter it is a question of individual graduate study.

## REPORT OF THE COMMITTEE ON THE FIELD AND SCOPE OF VOCATIONAL TRAINING IN FORESTRY.

This report is presented in two parts. The first, dealing with vocational education in forestry in a more general way, was prepared by the chairman of the committee, Prof. James B. Berry. The second part, dealing with ranger schools, was prepared by Prof. E. A. Ziegler.

### Part I. VOCATIONAL EDUCATION IN FORESTRY.

Vocational forestry is differentiated from professional forestry by extent of training rather than kind of subject matter. In general, the positions which are more intimately concerned with "doing"—with the carrying out of certain operations involving skills—are classed as vocational. In a broad sense, however, the term includes practically all of the so-called professional occupations. There is, then, no hard and fast line separating vocational from professional forestry.

The field of vocational education in forestry includes five lines of preparation, all of which may be promoted under the vocational education act (Smith-Hughes) of 1917. Briefly, these are as follows:

1. Farm-woodlot manager. Here forestry enters as an adjunct to farming and becomes one of several farm enterprises. Not infrequently the subject of woodland forestry will be handled as a phase of horticulture, especially as regards ornamental planting, windbreaks, care of shade trees, tree surgery, and nursery practices. The fact must be continually borne in mind that vocational training in agriculture is the object of this course of study, and the subject of forestry enters on the same basis as field crops, animal production, fruit growing, and farm shop. The course of training may extend over a period of four years or less. It should include six months of supervised farm practice.

2. Forest ranger (Federal and State civil service). This phase of vocational forestry involves training in many of the skills of civil engineering, silviculture, lumbering, live-stock growing, elementary law, fish and game protection and propagation, etc. In general, these positions are filled by graduates of professional and semiprofessional schools. Several hundred vacancies occur each year, and there is a growing demand for a limited number of vocational forestry departments in secondary schools for the preparation of rangers. The period of training may consist of four years or less. This course may be on a basis of four months of supervised work or alternate days or weeks devoted to supervised practice.

3. Straw bosses for woods operations. The course of training is quite similar to that offered for the preparation of foremen in industry. In addition to technical knowledge and skills there is involved ability to handle men. The subjects taught include certain skills in surveying, mechanics, lumbering, handling live stock, etc. On every operation there are certain men who, with a short, intensive course of training, will develop into efficient foremen. In general, this course may be offered in evening classes.

4. Skilled workers (sawyers, etc.) in sawmills, planing mills, handle factories, wood-pulp mills, tie pickling plants, and similar establishments. In this

case the course of training is more concerned with technical knowledge; skills are acquired in the ordinary course of the day's work. The instruction is highly specialized and varies for each industry. In general, there is a place for evening classes in connection with every large wood-using industrial plant.

5. Skilled workers in tree surgery, forest nurseries, woodland and estate management, city forestry, and similar positions. The type of instruction varies for the position and covers both technical information and the acquiring of skills. Frequently indeed the question of skills will be all important. Ordinarily such training does not involve the development of managerial ability, such as is required in a foreman. A short, intensive period of training, such as was developed by the War Department, will prove most successful. Alternate days or weeks should be devoted to supervised practice.

#### ORGANIZATION OF VOCATIONAL EDUCATION UNDER THE ACT OF 1917.

The administration of the Vocational Education Act (Smith-Hughes, 1917) is placed in the hands of a Federal Board of Vocational Education (which is composed of seven members—the Secretaries of Agriculture, Labor, and Commerce, the Commissioner of Education, and three lay members representing labor, agriculture, and industry) and State boards designated by the legislative bodies of the respective States. In general, the State board of education has been so designated and the State superintendent of education appointed executive official for vocational education. In many States an assistant to the State superintendent is designated director of vocational education and the responsibility for administering the act in the State is delegated to this official. The State director is assisted by assistant directors and supervisors in the various fields of vocational training.

The requirements of the vocational educational act are:

1. The instruction must be under public supervision and control.
2. It must be adapted to the needs of persons of 14 years of age and over.
3. It must be of less than college grade.
4. The instruction in agriculture must include six months of supervised practice.
5. The instruction in trades and industries must include one-half time devoted to practice work on a productive basis.

According to the 1920 report of the Federal board there are at present in the United States 3,155 vocational schools and departments taking advantage of the provisions of the vocational education act, of which 1,375 are in agriculture, 700 in home economics, 758 in trades and industries, and 322 continuation.

While the subject of forestry is not mentioned specifically in the act, the interpretation of the Federal board is that productive forestry (silviculture) is a part of agriculture, and forest utilization a part of the field of trades and industries. Much may be judged from the basis of apportionment; if the workers of the particular industry are numbered as "rural" by the United States Census, the presumption is that the industry is rural in nature and may be classified as agricultural. The fact that forestry appears in both fields necessitates a discussion of the possible development of vocational forestry in each field.

#### FORESTRY IN VOCATIONAL AGRICULTURAL SCHOOLS AND DEPARTMENTS.

In the field of vocational agriculture the high school has been universally selected as the institution best fitted for this purpose. Usually the work in agriculture is organized as a department, and it is optional with the student



which department he specializes in. In many States special vocational schools in agriculture have been established, and the students are required to pursue agricultural subjects during at least a portion of the course. In many States the curriculum of the vocational department in agriculture is outlined in the State plan in a general way. For the State of Pennsylvania the following course of study is required, although some latitude is allowed in adapting the instruction to local needs.

*Curriculum of the vocational department in agriculture in Pennsylvania.*

FIRST YEAR.

<i>Vocational and related subjects—one-half day.</i>		<i>Academic subjects—one-half day.</i>	
	Periods per week.		Periods per week.
General science .....		English .....	5
Poultry .....		Civics .....	3
Mechanical drawing .....		Etymology or foreign language .....	5
Vegetable gardening .....		Health inspection .....	2
Farm shop work .....			
Agricultural project .....			15
	15		

SECOND YEAR.

Farm crops .....		English .....	5
Ornamental gardening .....		Modern European history .....	3
Farm forestry .....		Economic geography or foreign language .....	5
Farm bookkeeping .....		Health instruction .....	2
Farm shop work .....			15
Agricultural project .....			
	15		

THIRD YEAR.

Dairying .....		Chemistry or physics .....	5
Animal husbandry .....		English .....	5
Fruit raising .....		History, American .....	3
Forging and farm shop work .....		Health instruction .....	2
Agricultural project .....			15
	15		

FOURTH YEAR.

Farm mechanics .....		Chemistry or physics .....	5
Farm management .....		English .....	5
Rural law .....		American economics history .....	3
Rural sociology .....		Health instruction .....	2
Agricultural project .....			15
	15		

The content of the course in woodland forestry, as a part of the four-year training period in vocational agriculture for high schools, is determined largely by the farm, community, and regional needs. Not alone the requirements of the present and immediate future must be given consideration, but also the probable developments of the more distant future. Wood differs from other crops chiefly in that a considerable period of time is required for the products to reach usable form. In the South, approximately 60 per cent of the total area is in woods, nearly every farm including a larger or smaller woodland. In the undeveloped sections it is not uncommon to find from 50 to 80 per cent of the individual farms in second-growth forest. Eventually an increasingly large part of the wooded areas will be required for the production of food crops to

satisfy the demands of a rapidly growing population. Agricultural development of the future must not be unduly stressed, however, since wood is as important a factor in our present-day civilization as is food material. The tendency in older countries is to provide for increasing populations through the introduction of more intensive methods of utilizing the soil. Germany maintains 26 per cent of her area in wood production.

#### THE COMMUNITY SURVEY.

The farm-to-farm survey, involving also a study of wood markets and farm requirements for wood, will indicate the relative importance of the wood crop and serve as a basis to determine the time, emphasis, and content of the course of study. Because of the bulky character of woodland products, the factors of transportation, involving the condition of country roads, distance to railroad, and railway rates, require special study, since these are often the controlling factors in marketing wood at a profit. Too often the farmer is at the mercy of the local dealer simply because he is unable to get his logs to market. The marketing of woodland products is frequently as difficult of solution as is the handling of perishable crops.

The farm requirements for repair and other wood products vary according to the intensiveness of agricultural practices, the demands upon the woodland being greatest in well-developed communities. Thus, the total area of woodland in a community is, in itself, not a true index to the relative importance of forestry in the course of study, market demands and farm needs demanding equal consideration. The coal situation during the recent war brought out the fact that many communities throughout the country used little or no coal for domestic heating.

Just where woodland forestry will be introduced into the four-year course of study depends upon its relative importance as a farm activity. In a community which is being developed along the line of diversified agriculture, and it is from this standpoint that the small woodland possesses the greatest possibilities in supplying the farm requirements for wood, the subject matter in forestry may well be introduced into the second or third year work, combining it with allied agricultural subjects to make a full year's work. Where farming practices are more specialized, the arrangement of the course of study must, of necessity, be modified. Thus, in a community where grazing is the principal agricultural interest, considerable time should be devoted to wood production as an adjunct to the growing of live stock. On the other hand, in a specialized market-gardening community where no woodlands occur, the work in forestry may be reduced to a minimum.

#### PROJECT WORK.

In general, the course of study in woodland forestry will be built up about the projects of possible interest to the pupils of a given community. Because of the run-down condition of the average woodland, the project of greatest interest to the boy will be along the line of reorganization on a profitable basis. Projects, both major and minor, of possible interest in certain communities are:

#### MAJOR PROJECTS.

Reorganization of the farm woodland on a profitable basis.  
Management of the farm woodland in the production of wood.  
Turpentine orcharding as an adjunct to wood production.  
Basket willow production.  
The production of nursery stock.  
The management of the sugar bush.

## MINOR PROJECTS.

The treatment of fence posts.  
The treatment of shingles and construction timbers.  
Woodland planting in the reclamation of eroded fields.  
Tree planting in the holding of stream banks.  
Clearing land of stumps.  
Establishment of a shelter belt.  
The planting of roadside trees.  
The pruning and care of shade trees.  
The control of tree pests.  
Trial planting of introduced trees.  
Estimating the volume of standing timber.  
Manufacturing wood with the farm-saw outfit.

A major project consists of a definite woodland problem involving a number of operations extending over a period of one or several years and offering opportunity for increased wood (of by-products) production. A minor project is a farm job involving woodland products and connected with, and a part of, a major project in field crops, animal production, woodland forestry, orcharding, or farm management. No considerable length of time is required in its execution, nor is there any question of seasonal sequence or cash returns. Often, indeed, the minor project is termed an "improvement" project, since the object is the betterment of farm conditions.

The size of the woodland is more or less fixed by farm conditions, varying from a few acres to 40 or more acres, and may not be modified to any great extent. An area of from 5 to 10 acres will usually be as much as the average boy can attend to, since his projects in field crops and animal production will, in all probability, be continued through this year also. In case the woodland is larger than is desired and, in addition, includes situations possessing agricultural value, the project should be limited to those portions which are adapted solely to the growing of wood. Accurate data are essential in the reorganization of the woodland, and this fact should limit the boy to an area consistent with thorough work. Other projects will vary with farm practices, market conditions, and trade customs. The project in turpentine orcharding should cover a crop, since this is in the recognized unit of the industry. The production of nursery stock may involve a very limited area (one-quarter to one-half acre) at the beginning, but provision should be made for an area of 15 or 20 acres to become available as needed. The same is true of the willow holt, the high cost of cuttings in the establishment of the holt limiting the boy to a small area.

Little can be said regarding the extent of the minor projects since much depends upon the requirements of the major projects and farm conditions. Particularly is this true of projects involving the clearing of land, the treatment of posts and farm timbers, the establishment of shelterbelts, the planting of roadside trees, and the pruning and care of shade trees.

Classroom instruction, as embodied in the course of study, is based upon a critical analysis of the projects of possible interest to the community and consists of a discussion of the scientific principles which underlie the practice of woodland forestry. General rules must be given a local application in the management of community woodlands; impracticable theories must be eliminated. In his project study the boy works out the further application of his technical knowledge to the specific needs of his woodland projects. It is essential, therefore, that the teacher, in the preparation of a course of study for a community, have definite knowledge of local conditions and keep clearly in mind the controllable factors of wood production. Unless he has had considerable experience in woodland management, he is in a position to derive as much benefit from the project as does the boy himself.

Because of the long life of the woodland project it is important that the annual reports be as detailed as possible, all data being included. As the reports for a particular subject accumulate from year to year the teacher will find in them a wealth of information which may be drawn upon for both classroom instruction and project study. The teaching in fact can not function as it should until these technical data have been assembled and put into usable form.

In a forest section where silvicultural activities constitute the principal occupation of the inhabitants, as is true of certain of the national forest areas, it could happen that 50 or even 75 per cent of the vocational course in agriculture might be devoted to the subject of forestry. In fact it needs but a decision by the Federal board to make possible the establishment of silvicultural vocational schools, similar to the Waldbauschule of Germany. In the United States the policy has been to use college graduates in forestry for filling ranger positions in the Forest Service, yet it is generally admitted that the work of a ranger is vocational rather than professional in nature. The real difficulty lies in the absence of practice in the professional course, and it is in an endeavor to correct this deficiency that professional students are advised to accept ranger positions. While there are many so-called ranger schools in the country they all require a high-school diploma for entrance, thereby placing themselves in the semiprofessional class and making themselves ineligible to the benefit of the vocational education act.

If the ranger schools of the country are to comply with the requirements of the vocational education act, it will be necessary (1) to reach the vocational standing by eliminating the high-school diploma entrance requirement; (2) to offer preparation for useful employment (as a ranger, cruiser, woods foreman, forest superintendent, etc.) which is adapted to the needs of persons over the age of 14 years; and (3) to require supervised practice under field conditions.

In the inauguration of vocational education in forestry the problem of teacher training will be found to possess a significance similar to the place it occupied in vocational agriculture. Vocational education demands new teaching tools and materials; the traditional lecture method of instruction can not be used. Boys who require vocational education are "motor minded"; they learn best by doing. This means that teachers must be specially prepared to instruct vocational students. No doubt the requirements as to the training will be somewhat similar in forestry to those in agriculture. Under the Georgia State plan the vocational teacher in agriculture must have had two years of practical experience in farming since his fourteenth birthday, one year of which must have been continuous; he must have had technical training in agriculture equivalent to a four-year professional course; he must have had professional training in teaching and education; and he is required to have practical experience in teaching vocational agriculture. It is readily understood that the teacher training division carries a large share of the responsibility in making for the success of vocational education, since it is this division which recommends both the technical and professional subject to be required of the prospective teachers. Whether the teachers of vocational agriculture will give any time to woodland forestry will depend upon their own training, and this in turn upon the courses in forestry required for the prospective teachers under the State plan.

If the statement is true that the future crop of wood of the eastern United States will be produced by the farm woodlands of that region, is it not highly important that the teachers of vocational agriculture—the ideal builders of the coming generation of farmers—be given adequate training in forestry? Many of the men in charge of teacher training have had no training in forestry

and can not realize its importance in the national economy, and the foresters in education must accept the responsibility to insure adequate preparation in forestry for the prospective teachers of vocational agriculture. Considerable care should be taken in outlining such a course, however, and the forester must make a critical survey of the field of activity of the vocational teachers to determine just what subject matter will be of value to them. He must realize that the teacher, in his particular community, makes a similar study to determine the subject matter needed by his pupils.

## Part II. RANGER SCHOOLS.

By PROF. E. A. ZIEGLER.

The purpose of the "ranger school" is to train men to fill positions in forestry below the grade of professional forester. For some time to come the special ranger school attached to some higher institution—agricultural college, professional forest school, special State ranger school, or private ranger school—will supply this demand. The following notes have to do with this field:

In the practice of forestry there must be a number of rangers (or men of similar grade) to each forester. Since there are upward of 22 schools giving professional forestry courses, one would expect several times that many schools training rangers. On the contrary we find very few schools training rangers. The conclusion, therefore, is that in the present stage of forest development in America the ranger, woods foreman, or under forester is not a school-trained man, and that the demand for such a training is not very strong.

This is not a condition peculiar to forestry. The engineer in carrying out his plans uses apprentice-trained foremen. Thus railroad track foremen and master mechanics carry out the instructions of the maintenance-of-way engineer and the civil engineer in charge of railroad construction. The mine engineer relies on the mine boss to carry out his plans. The architectural engineer relies on the boss mason, the boss bricklayer, and the boss carpenter. All these vocational men are apprentice-trained men, and the reason is not far to find.

The applications of architectural engineering and civil engineering are so varied and specialized that no one course for vocational engineers could cover the field. Further, the primary qualifications for these positions are manual dexterity and the ability to handle men. This is a training of "doing" and is very difficult to impart in a school, unless it is a shop school or "school on the job."

Physicians need trained nurses to carry out their prescribed treatment. They are not trained by studying the pharmacopœia and learning rules in a classroom. They are trained in the hospital and learn the medical side while learning the manual side. This "learning in doing" is being applied more and more even to professional education. Mechanical and electrical engineering schools are giving credit for and often requiring a certain amount of practical shop experience or apprentice work. Civil engineers are doing likewise. Theological seminaries require students to occupy pulpits in their senior year. Agricultural colleges are requiring a certain amount of practical work on accredited farms, even though they themselves possess experimental farms and carry on farming operations.

The following conclusions may be accepted, then, with little fear of effective contradiction:

1. The forest ranger for some time, like the engineering foreman, will continue to be largely a practical field-trained man, and a somewhat locally field-trained man. For example, in some regions of the Southwest, national forest rangers administer more grazing business than forest business. They must

necessarily be thoroughly versed in stock and range management. The ranger here may be primarily a cattleman.

In the Northwest there is more timber, and shortly, if not now, the ranger will be in constant touch with logging work. Here the ranger should be primarily a woodsman. The conservative logging-boss stripe of man is an effective ranger.

In the cut-over and burned forests of Pennsylvania the more advanced mountain farmer makes the best ranger. He is often a logging trained woodsman in addition, for not many years ago farming a mountain farm in summer and being a lumber jack in the winter was a common and profitable combination of vocations.

2. Should, therefore, there be no ranger schools at all? Although the majority of rangers and lower forest officers of foreman grade will, for some time to come, be drawn from this practical work-trained class of men, yet among the younger and more ambitious of these men there is some demand for better training in a few special lines. It may be range-management for some, for others timber estimating and scaling, road and trail building, forest mapping, or nursery management. There is room for a limited number of ranger schools now. For strictly ranger work they should encourage mainly the ranch, woods, and farm boys.

As forestry conditions improve and the professional foresters are able to become real practicing woods foresters in place of propagandists and virgin timber sale administrators, there will be a demand for more training on the part of under foresters to carry out their share of forest development. As these vocational schools become more and more forest trade schools, the term "ranger school" will become a misnomer. They should be called "lower forest schools," or "forest high schools."

3. These schools should be carried on in connection with a real forest of commercial size and under forest management.

4. For the present, field trained men of experience may need only short special courses of here six months, there three months, yonder a year. But the final vocational forest school for real forestry practice, taking the students from the public schools, must have at least two years in its course. In regions where there is demand for nursery superintendents, planting assistants, game preserve superintendents, and men of equivalent training, the time is now ripe for such a course.

5. For the present older practical, field-trained men the preparation required for the lower forestry (ranger) courses should be grammar school education. The course itself should be entirely "practice," with little or no basic science or mathematics, and should last up to one year. It is a passing phase and is not worth standardizing.

The vocational school, as real forestry begins to arrive, should require a two-year high-school training, and itself cover a period of two years, or should cover four years above the grammar school. It should give science and mathematics along with the strong field courses. In fact it should offer electives enough to permit the brighter and more ambitious to go into the professional course.

6. It is not thought that the curriculum for that ranger school that deals with the older field-trained man can or should be standardized. Cary's list in the 1911 Conservation Report covers the necessities, somewhat rearranged as follows:

(a) Engineering and construction:

Compass surveying and simple topographic mapping (plane table); leveling; road and trail building; cabins and bridges; telephones; trucks and mechanics.

**(b) Forestry:**

Silviculture (seed collection, seeding, planting).  
 Mensuration—timber estimating, scaling, calculation of increment.  
 Tree identification.  
 Forest protection—fire, insects, fungi.  
 Wood identification—local species.  
 Logging and utilization of wood.

**(c) Miscellaneous:**

Bookkeeping.  
 First aid.  
 Game and fish.  
 Constables' or wardens' law.

These older field-trained men will generally have the training in packing and riding, ax and saw, camping, etc.

For the forward-looking vocational forest school, looking to the public schools (second year high school) for its recruits, the course will be more comprehensive in that it will contain more basic mathematics and science, as well as more elementary outdoor training.

**FIRST YEAR.***First semester.*

English: Composition and rhetoric.  
 Mathematics: Geometry (elementary algebra assumed to have been taken in high school).  
 Botany: A brief view of plant structures and processes.  
 Tree identification.  
 Elementary forestry (general survey).  
 Silviculture: Seed collection and storage on a practical basis.  
 Shop: Woodworking and machine-shop tools.

*Second semester.*

English: Theme and report writing.  
 Mathematics: Elementary trigonometry, compass surveying.  
 Wood identification and uses of wood.  
 Drawing.  
 Silviculture: Seeding and planting (four weeks' nursery and outplanting work).  
 Mensuration: Log scaling, timber estimating.  
 Motor trucks and gas engines.

*Summer term.*

Nursery practicums: Use of ax and saw in improvement cuttings.

**SECOND YEAR.***First term.*

Mathematics: Plane table surveying and topographic sketching; forest type mapping.  
 Forest protection: Field practice in fire fighting carried on throughout course on adjacent forest property; protection from fire, insects, and fungi.  
 Road and trail building: Bridges, cabins, telephone construction, fire towers.  
 Silviculture: Methods (simple).  
 Geology and soils (elementary).

*Second term.*

Forest law: Elementary business law.  
 Bookkeeping and use of forms.  
 Game and fish.  
 Forest recreation.  
 Ranger manuals (National Forest or State, or both).  
 Special regional features, as grazing business, camping, packing.  
 First aid.

*Summer term.*

**Wood utilization:** Logging and milling in connection with commercial operation.

The above curriculum is mere outline. It is a little more theoretical than the previously-mentioned temporary ranger courses. Its graduates would start in as guard, assistant rangers, helpers, etc., and get practical field experience before being promoted to places of responsibility.

J. B. BERRY, *Chairman.*

E. A. ZIEGLER.

H. WINKENWERDER.

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## SHOULD "PUBLIC RELATIONS" RECEIVE A PLACE IN THE PROFESSIONAL TRAINING OF FORESTERS?

By HERBERT A. SMITH,

*Assistant Forester, United States Forest Service.*

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Throughout our program we have had before us the broad theme of what it is that we are trying to do when we undertake to make a forester. That is what we are bound to come back to, whether we are talking about entrance requirements or the length of the course or the subjects to be studied or specialization or meeting the demands of the industries or pleasing the men themselves.

The men themselves, as we have been told this morning, want a course that will let their begin to earn as soon as possible; and the industries which are ready to give them employment want them trained along specialized lines; and therefore we must, apparently, crowd pretty well out of the course those studies which are intended to give all-round development rather than preparation for specific classes of jobs. But, after all, must we? The spirit of youth is impatient, anxious to be done with preparing and to begin to do; and it is a wholesome spirit—for youth; but it is not necessarily wholesome for youth that it should altogether have its own way. Our professional schools have an obligation not merely to cater to the wishes of their clientele. If we are going to gauge our work on the basis of what the industries want, and so meet the desire of the bulk of forest-school students to get to the best-paying job with a minimum of expenditure of time and money, are we not in much the position of yellow journalism, which frankly undertakes to "give the public what it wants"? If we run our forest schools on this basis, we shall not prepare men for a career, for a lifetime of climbing the ladder; we shall prepare them for immediate jobs. The school that does that successfully will probably prosper greater, so far as numbers go; but the percentage of its graduates who eventually attain distinction will be unduly small.

It is important that a man should, in laying out the plan of his life, look far forward. He should prepare himself for middle age, for the period of fully ripened powers, for the true harvest time of his activity. You can not build high on thin foundations. The professional schools should recognize that their task is to give men the right start.

It is from this standpoint that I look at the question of preparing forestry students for what we have recently come to call, in the Forest Service, "public relations." The term designates for us, in the first place, a unit of organization. This unit conducts a group of specialized activities, having a common purpose. They are not merely activities conducted by specialists in the Washington and district offices; they are extended throughout the field organization to an increasing degree and with increasing emphasis on their necessity.

Take for example the forest supervisor. In the first years of the Forest Service our supervisors usually had to face a local public sentiment which was

not merely indifferent but actually hostile. Naturally the tendency was to fight back more or less; confronted by antagonism, men of spirit naturally felt the necessity of holding up their end. After this stage, and as the spirit of hostility died out, came a period of pressure from the Washington office for better standards of work. The forest supervisor had to be a combination of a good technical man and a good business man. The demands on him were constantly greater than he saw his way to meet, and compelled him to turn all his attention on the forest. A third stage came strikingly into view during the war. The forest officers had gradually gained a position in local esteem which caused them to be turned to as community leaders in all kinds of public activities. By and large, the forest supervisor has come to be not merely a Federal official, not merely a capable forester and business agent, but a public man. We are now entering on a fourth stage, in which the forest officer combines with the public relations viewpoint the assumption of definite and specialized public relations activities.

It was primarily due to our fire problem that we moved forward to this stage. Three or four years ago our District 5 office came to the conclusion that altogether too much money was spent in fighting fires which should never have started. A remedy was sought along the interrelated lines of law enforcement and education, each helping out the other. The educational task consisted of finding out and utilizing as many agencies as possible that would affect the ways of thinking of the public with regard to forest fires. Among these are the newspapers, the schools, the "movies," and public talks by local forest officers. The results had much to do with bringing us to our present recognition of public relations.

The question whether the men who come into the Forest Service from the forest schools should receive in connection with their technical training some specific preparation for work of this character can not be answered as an isolated question. It must be coordinated with the whole broad question of the type of man that the schools should seek to turn out, and the relative value of the different subjects needing to be taught, and the time that each should have given it. The dean of the school of Journalism in the University of Montana instructs the forest school students in newspaper work. The reason, he told me, is because a forest officer who does not know how to furnish the press with the kind of information that it wants, who does not understand the function of the press in our national life and does not appreciate the importance of establishing good relations with his local newspaper editors, lacks proper equipment for his work. That is significant, but not to my mind conclusive. For the question is not what is important, but what is most important.

There has been an extraordinary broadening of the conception of the field of the engineer. The profession no longer concerns itself merely with mechanical and physical forces and problems, with machines and structures and energy. It deals with all that enters into production, including the human element—with questions of labor, of public welfare, of Government. Unless we are to consider all this as without logical basis, there is need for recognizing that in the field of engineering we now have an entirely new set of concepts, and a necessity for a corresponding readjustment of education for the work of engineers. It must be broadened and humanized.

An undergraduate four-year course in forestry will closely approximate that of the engineering schools, if both are worked out along the right lines. It has been generally agreed here that in such a course for foresters the first two years should be the period of foundation laying, with emphasis on a broad

education rather than specialization. The aim is to give us a man of such breadth that he may be able to develop his full power in time, to grow as he goes on; to become a man of all-round capacity, of poise, sure judgment, of leadership and mastery. It will not do in planning for this to draw up a schedule of subjects and stop there. The important matter is not what subject you teach, but what your object is and what results you get. The place of English in the first two years' work has been spoken of this morning. To learn to think clearly and write accurately is certainly of great importance; but it does not follow that the burden of bringing this to pass should be laid solely on the English department. In a preparatory school I got my best training in English from my teacher of Latin. On the other hand, if we are considering how to develop an all-round man of power in his period of full maturity, possibly the English is needed in the course for other purposes. English studies must be coordinated with the study of other languages, of history, of science, of every part of the course, in short; and its definite educational object prescribed for it. When that has been done, call in the English department of the university, tell them what you want, and ask them if they can deliver the goods.

We can not settle this matter by my talking about it here for half an hour, or by everybody talking about it for two days. My hope is that this conference will proceed to create a committee the purpose of which shall be to make a study of the place of cultural education in the forestry course, the subjects most suitable to serve the purpose sought, and the objects to be aimed at in each case. This whole question is so broad, so complex, and so unformed at the present time that a council engaged in its study will have before it a task of a magnitude almost as great as its solution is urgent.

## REPORT OF THE COMMITTEE ON FORESTRY AS A PART OF EXTENSION COURSES IN COLLEGES AND UNIVERSITIES.

### EXTENSION WORK IN FORESTRY.

*Object.*—To supplement the more formal instruction of the classroom and reach those who can not afford the time or money to attend regular courses.

*The need.*—In this way the salient points in forestry can be set before the small woodlot owner, the wood user, and the person whose interest has been stimulated to the point where he wishes to acquire a systematic view of the fields which are susceptible of presentation by extension methods. To make this more concrete there would be included the woodland owner whose holdings were too limited to justify the employment of an expert and who must, therefore, be his own forester; the manufacturer of wood in some form who wished accurate information about his raw material; and the general reader who wished to systematize his information.

*Methods.*—Extension work may be accomplished by (1) reading courses, (2) talks; (3) demonstrations; (4) permanent projects.

Reading courses can be developed in the following subjects:

1. General forestry.
2. Dendrology (including wood uses and identification).
3. Estimating and scaling.
4. Woodlot management (including protection, utilization, silviculture, and regulation).
5. Lumber grading.
6. Sawmill practice.
7. Kiln drying.
8. Wood preservation.
9. Economic aspects of the lumber industry.

The aim should be to cover well a few well-chosen phases of the subject. The "job sheet" method, as employed in the intensive training courses of the Army, may well serve as a model. The textbook should be carefully selected and may in some cases have to be specially prepared. Written reports should always be required. These should be carefully reviewed, suggestions made as to wrong or doubtful points and graded.

Talks or lectures should be concise and forceful appeals for action along definite lines. To be effective they must first clear the ground of obstacles, real and imagined, and then bring to bear upon the will of the audience such a flood of stimuli that their inherent inertia will be overcome. Merely to convey information is not enough. The audience must be moved to use the knowledge presented.

Talks may well be illustrated where the illustrations reenforce the argument. Merely showing pretty pictures is a waste of time.

Demonstrations are the natural result of the failure of talks to produce large results. Showing a man how to do a thing is much more effective than telling him how to do it. Hence, talks should, if possible, always be

followed up by concrete, living illustrations. This is particularly the case in forestry. A demonstration talks all the time.

Projects are in turn a higher development than isolated demonstrations. In the former a carefully thought-out plan of action is followed up until results are secured. For example, thinning might be demonstrated in a single woodlot of pure, evenaged composition, but a thinning project covering all the phases of thinning in a certain type would be much more effective. It would include not only marking for thinning, but actually making the cutting and marketing the product.

#### SUMMARY OF RECOMMENDATIONS.

In view of the need of making extensive work in forestry more effective, it is recommended—

1. That all agricultural colleges and agricultural high schools be urged to give thorough courses in forestry to the end that woodland owners may be better prepared to care for their holdings, that the general public may better understand our problems, and in particular, that county agents and others charged with rural leadership may appreciate the important rôle of the forest in our national economy. At the present time rural leadership is almost wholly in the hands of tillage land experts who think the land should only be used for two purposes, cultivation or pasture.

2. Every woodland State should have at least one extension specialist to advise with the county agents. Ultimately there should be a forester in each wooded county.

3. A special committee of this conference or the Society of American Foresters should be appointed to—(a) outline reading courses; (b) secure a wider hearing in rural leadership circles for forestry; (c) report progress annually in the *Journal of Forestry*.

O. M. BUTLER,  
A. K. CHITTENDEN,  
E. O. SIECKE,  
K. W. WOODWARD, *chairman*.

#### DISCUSSION.

Prof. Woodward said that he was impressed by the fact that certain fundamental ideas have not yet been sufficiently impressed upon the general public. The average man does not realize that wood is a necessity, and further that it is a comparatively restricted crop and that the supply is limited. The question is how to create a recognition of the facts that will constitute a basis for action.

Mr. T. S. Woolsey, jr., thought that to get forestry understood by the public generally we must go deeper and begin in the schools. In France forestry is understood much better than it is here. They have reached the conclusion that to have it understood by all the citizens, the study of forestry must start in the schools. Can we not profit by their example?

The possibility of forwarding forestry through the agency of the farm bureau was discussed by several speakers, who all agreed that in this way points of contact could be established with the woodland owner and the wood user better perhaps than in any other way. But it requires trained men to do this work. What is needed is personal contact by the right sort of man, working in conjunction with the county agent, and backed in his work by the culminative effect of rightly directed publicity. It seemed to be the consensus of opinion that in many States the farm bureau organization, working in cooperation with the State college, and preferably having a forester on the staff, could accomplish more in this way than if the extension work were to be undertaken by the State forester, whose attention is more likely to be centered on administrative and protective duties. An alternative plan that has promise is the method of appointing foresters in charge of local districts.

## REPORT OF THE COMMITTEE ON THE CHARACTER AND EXTENT OF RESEARCH BY SCHOOLS OF FORESTRY AND DEPARTMENTS OF FORESTRY IN COLLEGES AND UNIVERSITIES.

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The agencies engaged in research contributory to forestry have recently been clearly defined by John C. Merriam,<sup>1</sup> of the National Research Council. His classification is as follows: (1) Research of practical application in engineering laboratories; (2) governmental bureaus and laboratories; (3) research foundations; (4) museums and allied institutions; (5) educational institutions.

In this collective development of research, schools and departments of forestry should bear a substantial part. Where the scope of the curriculum and the extent of equipment will permit, forest schools are especially fitted for this kind of work. Their administration is permanent, comparatively unchanging, and favorable to the necessary initiative and freedom in investigators. Moreover, the training of professional foresters, particularly in postgraduate grades, will profit by the inclusion of opportunity for research, both as an educational influence and a means to specialization.

It is important, however, to correlate the functions of the forest schools with those of the other agencies in the same or similar fields, particularly the Forest Service. The Forest Service is probably best qualified to undertake problems having a general or interstate bearing, while the schools are often better fitted to solve questions of a local or comparatively specific nature.

Fundamental problems, such as those dealing with the laws of growth, are best handled where the qualified men and a favorable directing policy exist. This combination may be found either in a Federal bureau or in educational institutions. The development of general science indicates that universities on the whole are the more favorable places for successful research.<sup>2</sup> Exact division of the field, however, is not possible or wise.

To develop the necessary correlation of work, both exchange of information on projects proposed or under way and actual cooperation are desirable. The basis of cooperation may well include the following items: Agreement upon a particular project and the working plan for carrying it out; control of execution; division of financial responsibility; and understanding as to rights and manner of publication.

It should be the function of some central body such as the Forest Service or the National Research Council to advise and consult frequently with the schools so as to avoid duplication and with the definite purpose of strengthening the hands of competent men who are working under difficulties. Such action would

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<sup>1</sup> The Function of Educational Institutions in Development of Research. John C. Merriam. Reprint from University of California Chronicle, April, 1920.

<sup>2</sup> Mr. E. H. Clapp of the committee, desires it to be recorded that his experience "leads to the belief that, other things equal, most favorable conditions for research permit investigators to devote their entire time to it, and that investigators in any institution where this is not possible labor under a corresponding handicap."

help to stimulate investigative work in general and make for unity in securing legislation. Any further attempt to standardize forest research by division of the field would be fruitless and inexpedient.

Respectfully submitted.

R. T. FISHER, *Chairman.*

R. C. HAWLEY.

J. S. ILICK.

J. H. FOSTER.

E. H. CLAPP.

#### DISCUSSION.

The discussion developed the idea that in this country research in forestry is really only just beginning, and that now that the machinery for carrying on the work of education in forestry is coming to be perfected, an important opportunity for the forest schools lies in fostering research. Various opinions exist as to how research in forestry should be divided. One argument is for the Federal Government to investigate National problems; the State, State problems; and the schools, local problems. Opposed to this is the method commonly followed in other lines of scientific research, where problems of fundamental interest are considered to be quite as much the function of the colleges as of the Government.

The consensus of opinion of the conference appeared to be that as research in forestry is so comprehensive in its scope, it would be better not to attempt an arbitrary division of the field, but rather to encourage in every way possible all the agencies prepared to engage in it. In the last analysis it is the investigator that counts; the man rather than the agency through which he works. The important point is that research is fostered by a congenial atmosphere. Such surroundings are more likely to be found at educational institutions than under Government bureaus, even though the Government may have better facilities for providing physical equipment. In the course of time the universities will get the money so that investigators may have equipment and time for their studies and be able to conduct them in an unhampered way.

The opinion was expressed that a limited amount of teaching, particularly of advanced students, was in many cases an advantage rather than a detriment to the investigator, particularly where as in a school of applied science the subjects being studied can be made to link up with the problems of industry. From another standpoint the study of such problems is advantageous in that it may lead to financial support being given to research work by commercial interests which, so long as the grants are made without improper restrictions, is an effective aid in the advancement of knowledge.

## RECOMMENDATIONS OF THE CONFERENCE.

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Throughout the meeting the sentiment was repeatedly expressed that the reports submitted were but starting points for the problems under consideration. Because of this feeling, and also in view of the report of the committee on permanent organization, the conference at its final session expressed its belief that the purpose for which the New Haven meeting was called would best be served were the work there begun continued by a permanent organization. It was the sense of the conference that the most satisfactory agency through which to accomplish this was the Society of American Foresters. Accordingly, the conference unanimously adopted the following:

### RESOLUTION.

*Resolved*, That this conference recommends to the Society of American Foresters (1) that it appoint, through its president, a committee on forest education to consider all suggestions made to this conference, whether in formal reports or otherwise, together with such other phases of forest education as it deems advisable; (2) that this committee consist of (a) the chairman of this conference, as chairman, (b) the chairmen of the eight committees reporting to this conference in those cases where they were senior members of the society, and in cases where they are not, of some other member of the committee who is a senior member of the society, and (c) of three other members; (3) that this committee be authorized to appoint subcommittees, which may include persons to be appointed by the chairman who are not and do not by virtue of such appointment become members of the main committee; and (4) that it report the results of its investigations, with recommendations, to the society from time to time.

At the annual meeting of the Society of American Foresters, held in New York City on December 19, 1920, the above resolution was presented and adopted. Shortly thereafter the president of the society appointed as the committee on forestry education the following persons:

J. W. Toumey, New Haven, Conn., chairman.  
R. S. Hosmer, Ithaca, N. Y.  
H. H. Chapman, New Haven, Conn.  
F. F. Moon, Syracuse, N. Y.  
S. T. Dana, Washington, D. C.  
E. A. Ziegler, Mont Alto, Pa.  
E. G. Cheyney, St. Anthonys Park, Minn.  
K. W. Woodward, Durham, N. H.  
R. T. Fisher, Cambridge, Mass.  
H. P. Baker, New York, N. Y.  
P. S. Lovejoy, Ann Arbor, Mich.  
R. D. Forbes, New Orleans, La.

To cover the wide field and to endeavor to advance forestry education in this country in the largest measure, the main committee has been organized into 10 subcommittees to study and report upon specific topics within the limits of the general committee's field of activity. These reports will be made to the Society of American Foresters and doubtless in due course will be made public through the official organ of the society, *The Journal of Forestry*.



## APPENDIX.

### LIST OF COMMITTEES OF SECOND NATIONAL CONFERENCE ON EDUCATION IN FORESTRY.

New Haven, Conn., December 17 and 18, 1920.

#### OFFICERS OF THE CONFERENCE.

*Chairman:* Dean James W. Toumey, Yale School of Forestry.

*Secretary:* Mr. T. S. Woolsey, jr., New Haven, Conn.

#### COMMITTEES APPOINTED BY DEAN TOUMEY TO REPORT AT THE CONFERENCE.

##### *Committee on undergraduate course:*

Dean R. S. Hosmer, Cornell University, chairman.  
Professor J. M. Briscoe, University of Maine.  
Professor A. K. Chittenden, Michigan Agricultural College.  
Professor R. R. Fenska, University of Montana.  
Professor Donald Bruce, University of California.  
Mr. J. S. Holmes, State Forester of North Carolina.

##### *Committee on course leading to the degree of Master of Forestry:*

Professor H. H. Chapman, Yale University, chairman.  
Dean Filibert Roth, University of Michigan.  
Professor S. N. Spring, Cornell University.  
Professor C. D. Howe, University of Toronto.  
Mr. P. T. Coolidge, Consulting Forester, Bangor, Me.

##### *Committee on specialization:*

Dean F. F. Moon, New York State College of Forestry, chairman.  
Professor R. C. Bryant, Yale University.  
Professor J. A. Ferguson, State College of Pennsylvania.  
Mr. W. B. Hastings, State Forester of Vermont.

##### *Committee on training of specialists in forest products:*

Mr. S. T. Dana, U. S. Forest Service, chairman.  
Dean R. S. Hosmer, Cornell University.  
Dean H. Winkenwerder, University of Washington.  
Dr. W. K. Hatt, Purdue University.  
Dr. C. E. Paul, National Lumber Manufacturers' Association.

##### *Committee on vocational training in forestry:*

Professor J. B. Berry, Meadville, Pa., chairman.  
Professor E. A. Ziegler, Pennsylvania State Forest Academy.  
Dean H. Winkenwerder, University of Washington.  
Mr. R. S. Maddox, State Forester of Tennessee.

##### *Committee on forestry in cultural and general educational discipline:*

Dr. C. D. Jarvis, Bureau of Education, Washington, D. C., chairman.  
Dr. John Ise, University of Kansas.  
Professor E. G. Cheyney, University of Minnesota.  
Mr. H. O. Cook, Forester, Conservation Commission of Massachusetts.  
Mr. R. D. Forbes, State Forester of Louisiana.

*Committee on extension courses in forestry:*

Professor K. W. Woodward, New Hampshire Agricultural College, chairman.  
 Professor A. K. Chittenden, Michigan Agricultural College.  
 Mr. E. O. Siecke, State Forester of Texas.  
 Mr. O. M. Butler, Forest Products Laboratory, Madison, Wis.

*Committee on research in forestry:*

Professor R. T. Fisher, Harvard University, chairman.  
 Professor J. S. Illick, Department of Forestry of Pennsylvania.  
 Professor R. C. Hawley, Yale University.  
 Mr. J. H. Foster, State Forester of New Hampshire.  
 Mr. E. H. Clapp, U. S. Forest Service.

## COMMITTEES APPOINTED BY THE CONFERENCE.

*Committee on permanent organization:* R. C. Bryant (chairman), J. A. Ferguson, J. M. Briscoe.

*Committee on resolutions:* H. H. Chapman (chairman), F. F. Hoon, S. T. Dana.

*Committee to edit and publish the proceedings:* R. S. Hosmer (chairman), E. A. Ziegler, K. W. Woodward.

## FOREST SCHOOLS HAVING 4-YEAR CURRICULA.

Economy in publication demanded the omitting of the detailed courses of study for 20 American forest schools offering courses covering a four-year period. Certain of the schools offer only a four-year curriculum; others also give graduate work, leading after one additional year to the master's degree. In the following list the schools offering graduate work are indicated by an asterisk.

Interested persons may secure the curricula of the schools from their respective catalogs in greater detail than could be here published. The similarity of many of the courses would have made of their inclusion unnecessary repetition.

The following list shows the principal forest schools giving 4-year courses or more and granting a forestry degree:

Bates College, Lewistown, Me.

\*University of California, Berkeley, Calif.

\*Colorado College,<sup>1</sup> Colorado Springs, Colo.

Colorado Agricultural College, Boulder, Colo.

\*Cornell University, department of forestry, New York State College of Agriculture, Ithaca, N. Y.

Georgia State College of Agriculture,<sup>1</sup> Athens, Ga.

\*University of Idaho,<sup>1</sup> Moscow, Idaho.

\*Iowa State College of Agriculture, Ames, Iowa.

University of Maine, Orono, Me.

\*Michigan Agricultural College, Lansing, Mich.

\*University of Michigan, Ann Arbor, Mich.

\*University of Minnesota, St. Paul, Minn.

University of Montana,<sup>1</sup> Missoula, Mont.

University of Oregon, Eugene, Oreg.

Pennsylvania State College, State College, Pa.

Pennsylvania State Forest Academy, Mont Alto, Pa.

\*Syracuse University, New York State College of Forestry,<sup>1</sup> Syracuse, N. Y.

\*University of Toronto, Toronto, Canada.

University of Washington,<sup>1</sup> Seattle, Wash.

\*Yale University, New Haven, Conn.

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<sup>1</sup> This school also gives a short course for forest rangers.

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DEPARTMENT OF THE INTERIOR  
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BULLETIN, 1921, No. 45

# SCHOOL GROUNDS AND PLAY.

By

HENRY S. CURTIS



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# SCHOOL GROUNDS AND PLAY.

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## INTRODUCTION.

There are many people of middle age in America still who do not believe in play. They grew up without playgrounds themselves, and they do not realize how greatly conditions have changed during the intervening years. When I was a boy in southern Michigan the school session in our country community was only four months a year. Under these conditions the school may rightfully give its entire energy to scholastic subjects, and trust to the children finding time for play and industrial training during outside hours. But as the school takes over more and more of the child's time and energy, and grows from a 4-month term to a 9 or 10 month term, with a tendency toward a yet longer year, and a yet longer day, it becomes necessary that the school shall make provision for all sides of the child's nature.

There are many men of the old school who believe that work is the proper method of developing manly qualities in boys. They still proclaim their theory, forgetting that our child labor laws do not allow boys or girls to work before the age of 14 or 16. Work on the farm and in many other lines of industry had a great physical and practical value; but farm boys have mostly dropped farm work, except a little during the vacations. There is almost nothing for city boys to do. Some girls sweep the floors, make the beds, and wash the dishes, but they do not grow strong from washing dishes.

It is impossible to develop a high degree of motor skill unless the muscles and coordinations are trained during the period of growth. The best time for physical training is the period of the elementary school. During this time there is little physical work; probably not more than 5 per cent of the pupils have regular access to a gymnasium, and their chief source of physical development is play and athletics.

The war revealed that about one-third of our young men from 21 to 31 were unfit for military service, and the War Department officials tell us that at least half of this physical unfitness would have been overcome if these young people had had proper physical training during their youth. We did not examine our young women, but no one thinks that we should have found these young women in a better physical condition than the young men.

When the young men who were accepted were sent to the training camps, more than half of the time was spent in putting them into physical condition. From this came first a movement for universal military service, which has changed during the last two years into a movement for universal physical training.

The war has demonstrated the great value of athletic sports in developing initiative, courage, resourcefulness, quickness of thought in time of danger, and all the qualities which make a capable soldier. Athletics was a great safeguard in keeping the men from temptations, offered the greatest relief after the strain of the trenches, and enabled them to come back after a nerve-racking period in the front line. It developed morale. Even with inadequate training, the American soldier was one of the most efficient fighting men in Europe, and he owed



his efficiency largely to baseball and football. If the battle of Waterloo was won on the football fields of Eton, then Chateau-Thierry and the Argonne were won no less on the baseball fields of America.

Every activity of civil life was carried on in the Army, and there were always 5 to 10 men behind the line to every man in the line, yet the Army rejected one-third of our young men from military service. It rejected them because it demanded higher efficiency than civil life has ever demanded, and because it demanded that the men in the Army should have resistance against disease and be able to recover from wounds. But it is also desirable that men should be efficient in civil life; that they should be able to recover from wounds and have resistance against disease. The handicaps on account of which the men were rejected from the military service are no less handicaps in civil life than they were in the Army.

At the beginning of the war we were spending 10 cents per capita on the recreation of children, but during the war we spent nearly \$50 per capita for the recreation of our soldiers. At the beginning of the war the venereal rate in the Army was 11 per cent, but during the war, in spite of adverse conditions in France and in military camps in general, it ran down to 4½ per cent. There is every reason for thinking that similar measures in time of peace with civil populations would be yet more effective.

#### OUR NEW STATE LAWS.

Since the war there has been a new emphasis on organized games and athletics throughout the world, and in some countries on gymnastics also. In the United States, since 1916, 28 States have passed laws putting organized games and athletics into the program of the public schools. Such bills are now pending in the legislatures of several States.

These State laws are much alike. Most of them have resulted from a meeting of physical trainers called together by the United States Commissioner of Education, Dr. P. P. Claxton, at the meeting of the National Education Association two years ago, at which the National Physical Educational Service was organized, with an office in Washington in charge of E. Dana Calkins, and supported by the Playground and Recreation Association of America. In general outline the more recent laws are about as follows:

There is to be a physical examination of all children each year with some suggestion for the removal of the physical defects discovered, usually by some follow-up system by the school nurse. In the State of Iowa children may be sent to the State university hospital and be maintained there at State expense for necessary operations.

These examinations show that there has been a great increase in malnutrition during the war, and that about one-third of the children are undernourished; that there are a great many with adenoids or enlarged tonsils, which require an operation, many who need glasses, and a large majority who have defective teeth.

Most cases of diphtheria, whooping cough, typhoid fever, and measles are contracted at school. The doctor is not at the school enough to discover these cases in time to prevent the exposure of other children. In some of the State laws it is provided that there shall be an inspection of all children each morning by the teacher.

In some States, as New York, a mark on posture is given on the monthly report card.

There is a two-minute drill at the end of each recitation period for relief from sitting still.

Health and the principles of hygiene are to be taught to all children, and certain periods are provided for gymnastics and games. About two-thirds of the time is to be given to organized games out of doors during the pleasant weather.

The following is the present requirement in the State of New York:

1. Physical training A: Correlation with school medical inspection, daily inspection of every class by the regular class teacher.

2. Physical training B: Relief drills of at least two minutes' duration in connection with each class period, or at least four times every school day, under the direction of the regular class teacher.

3. Physical training C: Talks on hygiene, two 10-minute or 15-minute periods a week under the regular class teacher or a teacher appointed for this special work.

4. Physical training D: Games, athletics, gymnastics, group dances, etc.

(a) Supervised requirement: A minimum of two hours per week under supervision or direction of school officials. May be covered in recess periods, in the regular schedule, or after the other work of the day is completed.

(b) Additional requirement: Three hours per week, supervised or unsupervised.

The minimum time demanded in most States is 20 minutes in excess of regular recesses and noons, but in Kentucky, Georgia, and New Jersey it is 30 minutes, while in New York it is nominally an hour.

In those States where there is an appropriation and provision for a State director of physical training, as there is in New Jersey, Maryland, Michigan, New York, and California, the law has been effective. A syllabus of physical training is issued from the State department of physical education, and the physical director holds conferences with physical trainers over the State to get this program under way. Courses in games for all students and special courses for physical trainers are being started at the State normal schools. Play is being introduced into the county teachers' institutes. In the State of New Jersey there has been organized also a State association of physical trainers and a State interscholastic athletic league. In some States where there is no appropriation and no State director, as in Delaware, Indiana, and Illinois, the law apparently has had little effect.

*New conditions in the colleges.*—During the war the Students' Army Training Corps was organized in most of the larger colleges, and mass athletics and other outdoor sports were introduced. There has been an enormous increase in outdoor athletics in nearly all of our colleges since the war, so that in the fall of 1920 out of 640 men in the freshman class at Harvard only 16 were doing formal work in the gymnasium, while all the rest were engaged in some kind of athletics. Out of some 675 at Yale only 70 were taking work in the gymnasium, while all the rest were engaged in athletics. Columbia University now requires all its freshmen and sophomores to take their exercise in the form of athletics out of doors during the fall and spring. Baseball, basket ball, volley ball, hockey, tennis, and football are required of all of the men as a part of their regular course. Every man must learn to swim and take part in at least two forms of field athletics. These are required both for the sake of exercise and because they are believed to be a part of a general education. The University of Pennsylvania has been a pioneer in requiring athletics of its student body. Northwestern has made athletics compulsory during the last year, while West Point, which has in the past been largely devoted to gymnastics from a military point of view, now requires mass athletics of all students for four periods a week. The same tendency has shown itself in the small universities and colleges wherever they have had the facilities.

## THE MUNICIPAL PLAYGROUND.

The municipal playground can not care for the play of school children adequately. The children do not know each other well enough, and they are not friendly enough for play of the right sort. Among the essential conditions of successful play are that the children shall be of nearly the same age, of the same sex, and that the same children should play together each day. This is impossible on the municipal playground as now organized. During the school year, if the children are to go to the municipal playground, they must make separate trips home and to the ground. This extra effort is sufficient to prevent many from going. The school year is being constantly lengthened until there is a possibility of a 12-months term and a 6-hour day. With this arrangement it will be practically impossible for the children to use the municipal playgrounds except at night. Play is one of the greatest educational forces of childhood, and to turn it over to any organization which looks upon it merely as amusement is often to lose its chief educational values. The school board has the machinery for providing educators to organize work with children, while park boards usually do not have this machinery, and with them playground positions are more likely to be filled with political retainers and others who are unsuited to the work. In all cities that have adequate school grounds, or where the school board can administer the municipal playgrounds, the play of school children should be supervised by the schools. Play is to-day a larger school problem than it ever was before.

## AREA OF THE SCHOOL GROUND.

Many of our old schools were built without playgrounds, and the buildings occupy almost their entire site. Our new activities are demanding more space. The rules as passed by the State board of education of Delaware last year regarding the size for school sites are as follows: "For a one-room school there shall be not less than 2 acres; for a two-room school not less than 3 acres; for a three and a four room school not less than 4 acres."

Many of our older city schools have been largely surrounded by residences and business buildings, until little space in the immediate neighborhood is available. There has been a good deal of discussion of the London requirement of 30 square feet of playground for each child, but this is an absurdly small amount, giving each child practically only a 5-foot square to play in. There have been a number of other standards proposed, running up to 200 square feet per child, but no standard built upon the number of children at the school has much significance, for the reason that in outlying sections where schools are built with few rooms land is probably cheap, and grounds can be secured which may accommodate also the overflow activities from other schools. A three-room school in the suburbs with adequate play space soon grows into a 15 or 20 room school, with very inadequate play space. The only sensible rule is that 6 or 7 acres should be secured for every school if possible, and the minimum that should be allowed by law for any new school, except under very unusual conditions, should be one city block. If a large outlying site has been purchased, and the city does not grow in that direction, a part of it may be turned into a park for that section, or an athletic ground, or gardens, or tennis courts. There are dozens of uses to which this ground can be advantageously put, and it is probable if the law permits it, that after having kept the ground for a dozen years without taxes, 10 per cent of it might be sold for enough to pay for the entire site.

*Enlarging grounds.*—Many of our schools have been built without playgrounds, and the sensible thing in many cases is to abandon these old sites and select new and more adequate ones, for in these old buildings without playgrounds there are practically no gymnasiums, auditoriums, or shops; no rooms for domestic economy, manual training, art, or music, or any of the things which constitute a modern school.

The survey committee of Delaware, of which Prof. Strayer, of Columbia, was chairman, scoring the school buildings of Delaware outside of Wilmington, found that only 4 or 5 per cent scored above 500 on 1,000, and recommended that all of these buildings should be abandoned. Probably the great majority of buildings that have been constructed without playgrounds in the United States would score less than 500 points on 1,000 on the scale adopted by the survey committee.

Most of these sites are in sections where land value is high, and may often be sold for enough to acquire a fine site farther out. Where this can not be done, the school board should follow a policy of enlarging its school grounds by the purchase of adjacent grounds or buildings, whenever these can be secured at a reasonable price. The city of Houston, Tex., a few years ago issued bonds for \$500,000 to enlarge the grounds of its old schools. Berkeley and Oakland, Calif., have also done this on a large scale.

Often it is possible to buy land cheaply in the interior of the block by cutting off 50 to 100 feet from the back ends of the house lots. In Salt Lake City, where the blocks are very large, many of the schools are thus securing playgrounds nearly 8 acres in size.

*Detached playgrounds.*—It is not absolutely necessary that the playground should be in the same block with the school. There are many cases where, though it is impossible to get more land in the same block without paying a prohibitive price, it may be possible to get ground across the way much more cheaply. Ground of this sort may be quite as well adapted for tennis, volley ball, basket ball, and baseball as is the school ground. In fact, it may be an advantage to have these games away from the school building and the smaller children.

Many London schools make provision for out-of-town grounds, where they can not secure them near the school, and then arrange for a cheap fare with the tramcars that carry children back and forth at hours when the bulk of the traffic is going in the opposite direction at half price.

*The school park.*—Jacob Reis, in New York, for many years advocated that there should be a small park in connection with every school ground. Gary, Ind., has made a beginning of this at the Emerson and Froebel Schools. Such provision would be desirable in many locations. The new high-school in Flint, Mich., has 43 acres of ground and probably 30 acres of woodland.

*Leveling.*—All college athletic fields and tennis courts are made almost level. No other surface is suited to play upon. Inequalities are always likely to result in sprains. Few of our school grounds have ever been leveled; yet this is the fundamental condition for successful play on from half to two-thirds of them. They must be graded so that the water will run off without washing; stones must be dug out, projecting roots cut off, and inequalities of the ground filled in until the ground is nearly as smooth as a tennis court or a regular baseball diamond for professional baseball. If the ground is a hillside, this can only be done by putting it into terraces, which is expensive but unavoidable.

*Seeding the ground.*—The ideal surface for most games is grass, and for all rural schools and the larger city sites it should be possible to keep grass on a part of the ground at least.

The grounds should first be carefully leveled, enriched, and seeded down. In the South the best grass is Bermuda,<sup>1</sup> while in the North some form of June grass, red top, or creeping bent serve best. It is almost impossible to kill out Bermuda grass; it will stand the wear of very intensive play.

*Surfacing.*—In our larger cities where the grounds are small and the number of children is great, no kind of grass will stand the wear. Many kinds of surface have been used, all of which are more or less unsatisfactory, but some of which are better than others. Of all surfaces next to mud, probably brick is the worst, then comes cement, and then coarse cinders or broken stone. The best surfaces are ground or crushed cinders, torpedo gravel, or the finest of crushed stone. School boards who are putting in brick, or coarse cinders, or broken stone may well consider that no adult would play on such a surface for a day, that to run on brick or concrete is a constant jar to the nervous system, that the coarse pebbles and cinders turn the ankles; that they will cut out a baseball or a volley ball in a day; and that a fall upon them probably means a bad cut and a hole through the trousers. They wear out nearly enough shoes, clothes, and play equipment every year to pay for proper surfacing.

Torpedo gravel is a fine water-washed gravel, a little smaller than a double-B shot. It is nearly round and is put on to a depth of about one-half inch. If the ground is well graded and underdrained, or is of a loamy texture, this makes a fairly satisfactory surface. Mr. Champlin, recreation secretary for Philadelphia, gives the following specifications for the surfacing used on the grounds of Philadelphia:

The entire plat (with such exceptions as may be required in each particular case) to be graded to a subgrade or 10 inches below the finished grade as shown on the plans.

This surface so made is to be carefully, though not accurately, leveled, and is then to be compacted by rolling with a steam roller of not less than 5 tons in weight.

All soil or waste material resulting from this grading is to be taken away and disposed of.

Sufficient hard-coal cinders should be spread over this surface so that after rolling with a steam roller of not less than 5 tons in weight there will be a thickness of 7 inches.

The cinders must be thoroughly wet before and during rolling, and the rolling may be done in one layer.

Stone screenings should be placed on top of the cinders to a sufficient depth so that after rolling with a steam roller of not less than 5 tons in weight and bringing the surface to the grades given by the district surveyor, there will be a thickness of not less than 3 inches of stone screenings. The stone screenings must be thoroughly wet before and during rolling, and the rolling may be done in one layer.

These specifications when properly followed will produce a surface that will not become muddy or restrict play, even after the most severe rainstorm, for more than a very short period, up to one hour; for if the area is graded to direct the water to sewer outlets by very gradual grades, the excess water is gone immediately after the storm and the composition of the surface permits the percolation of enough water to saturate the area so as to prevent dust for a considerable time, depending, of course, on the weather.

In Philadelphia playgrounds have the top surfaced with the finest of stone screenings. Until recently they have been treating this also with gluten to keep down the dust, but this has of late been discontinued on account of the expense. In the new schools of Detroit they use 2 inches of cinders, surfaced with 2 inches of very finely crushed lime stone.

None of the surfaces mentioned will be found entirely satisfactory. The surface used in Philadelphia is too hard and also more or less dusty. Cinders

<sup>1</sup> In the Playground for February, 1921. See specifications for grassing a golf course. These will answer equally well for a playground.

are not pleasant to look at and absorb the heat in summer. It is probable that we shall ultimately have to manufacture a surface before we shall get one which meets all conditions. A surface of about 2 inches of India rubber, colored green or light brown, would make the ideal surface; and it may be that some of the rubber substitutes will some time be cheap enough so that this can be done, or it is possible that some form of resilient asphalt properly colored may be produced which will be satisfactory.

*Roof and basement playgrounds.*—In places like New York City, where ground is often worth a million dollars or more per acre and the site on which a building is erected may cost more than the building, it is not to be expected that a large space can be secured for a playground. In New York this situation is met in the newer buildings by a fairly light playground which occupied the entire space of the first floor of the building and by putting a second playground on the roof, so that the school has a playground area equal to twice the site on which it is built and, in addition, such small exterior courts as are necessary to give the building the proper light and protection from the sounds and smells of the neighborhood. Such provision should be insisted upon for new schools where adequate outdoor space can not be secured.

*Keeping in condition.*—In many school systems there is no provision for keeping the school yard in condition. Few school yards look really tidy. Projecting roots, stones, brickbats, and heaps of ashes should be removed. The board of education should provide for a monthly clean-up, and the janitor or a sanitary squad at the school should constantly see that the ground is in condition.

*Location of the school building.*—The school architect desires to put the building where it will be most conspicuous and sightly. It is a better advertisement for him if he can have an acre of lawn with flowers and shrubbery in front; but if the school board buys 2 or 3 acres and puts the building in the center the pupils will not get much use of the ground. The building should be at the end or side of the grounds, not far from the street. The part in front may then be grassed and flowers and shrubbery may be used.

*Planning the school ground.*—To secure efficient use of the school ground it must be level and planned as carefully as the building itself. There are many school grounds where the older children have put up a basket-ball court in the middle of a half acre of ground, thus using ten times the space needed and keeping all other playing groups from using the ground. The playgrounds for little children should be located near the building. Equipment should be put at the side, leaving the general play space open, and school gardens should be at the back, away from active games. Running tracks, jumping pit, and equipment for athletics should be along the side.

*Fences.*—It has been the custom in parts of the East to provide an outer fence, and oftentimes a fence separating the girls from the boys, while in the West and in general in newer schools there have been no fences. There are advantages in having a fence. It sets the school ground off by itself and gives it individuality. Conduct will always be a little better on a fenced ground. It is easier to control. There is less danger of the children rushing into the streets in front of automobiles. There is less danger also from stray dogs and runaway horses, and there is very much less annoyance from the use of the ground at night. But schools with the smaller grounds can not afford the space, and must use the sidewalks and streets more or less. In the larger grounds a fence is probably worth while. If it is covered with rambler roses, morning-glory, or honeysuckle, it may add much to the appearance of the ground. The fence separating the girls and boys takes too much room, and

where there is supervision it is not necessary. It is desirable, however, that there should be a separate place for little children, and a low hedge may be put around it if the ground is large.

#### TREES.

Trees are desirable on school grounds. During the late spring, in September, and all through the summer, if the ground is used, shade is necessary for securing the attendance of the children. Trees also add a touch of nature and make the ground more attractive, but probably one-half to two-thirds of the trees now in school yards ought to be taken out. A tree is a fine thing in itself, but a tree in the middle of a tennis court or a baseball diamond is a nuisance. A double row of trees, one just outside the sidewalk and the other just inside the line of the playground, is desirable, with a possibility of leaving an open space directly in front of the building and of adding also a double row along some of the walks, and possibly putting another row around special features, such as the tennis courts. But no tree should be planted on a school ground without a definite plan.

A tree can not be simply pulled up or dug up and stuck down into a hole, with the expectation that it will live. Ground 5 or 6 feet in diameter should be excavated to a depth of 2 or 3 feet and filled in with good ground. Usually the top of the tree must be cut off if a number of the roots have been broken in transplanting, and it should be boxed.

It is often wise to have the inner and the outer row of different varieties of trees. If the inner row is of horse chestnuts; or, if in the South, of magnolias; or, if in the Southwest, of olive or palm trees, the double arrangement may add much to the beauty of the ground. Sugar maple is probably the best single tree—but it grows slowly. Basswood also is an attractive tree in the North, especially when in blossom in the spring. It is often wise to plant a rapid-growing tree, such as the cottonwood or the soft maple, alternately with a slow-growing but finer tree, such as the sugar maple. Mature trees should be 30 to 40 feet apart, as they will not grow fine tops otherwise. As the slow-growing trees mature the rapid-growing ones may be cut out.

On the larger grounds it would be wise in many cases to plant in some retired part a small park or grove, perhaps 100 feet square, where play equipment could be placed and where the children could eat lunch in warm weather. This would offer an opportunity to put up bird houses, and to encourage woods flowers and squirrels.

*The tree as a gymnasium.*—A large tree, with spreading branches, offers many opportunities for play and for athletics. A limb is the cheapest and the most satisfactory attachment for a swing, as it furnishes also shade, and much cooler shade than is cast by a canvas awning. It also furnishes possible attachment for a trapeze, parallel rings, and even for flying rings, if there are a number of large branches. Climbing ropes or poles can be attached to the limbs as easily as to the framework of a gymnasium, and if knotted ropes are used, attached high up, the tree may be a pretty complete gymnasium.

#### A MENAGERIE.

All children are interested in animals. It is they who maintain interest in the zoological gardens in our cities, for most of those in attendance are children and adults who are with them. In the yard of the Emerson School, in Gary, Ind., in 1917, there was a henhouse with 40 chickens; a coon tree with 3 coons; a tame crow; and 2 or 3 wolves. It may be a question how far the

school can afford to go into the menagerie; but as a minimum for the kindergarten and the first grade there should be at least a few rabbits and guinea pigs, and possibly white rats. The care of these pets is an excellent form of moral training, as the animals are always personified. At the Francis Parker School in Chicago the chicken house is made the basis of much of the arithmetic work, as the children buy the feed, gather and sell the eggs, and keep track of expenses and profits. Incidentally, they have a new fundamental interest and learn much about the ways of hens. There should be bird houses in the trees, and as many birds and animals as feasible should be encouraged to live there. The Society for the Study of Education in New York City has been putting white rats and white mice and guinea pigs into many of the schools in New York, because of the educational value which they believe these pets have.

#### THE SCHOOL GARDEN.

During the war there has been an enormous increase in gardening in England and in America. Directors of school gardens have been appointed in many cities, and many children have had gardens either at school, in the back yards of their homes, or on vacant lots. Gardening gives considerable outdoor exercise, and makes children familiar with one of our fundamental occupations and also with many of the laws of growth. However, it is far less important on school grounds than play, and where the ground is small the space can not be afforded. If the school has a garden, it should be placed at the back, where it will interfere with play as little as possible.

#### EQUIPMENT.<sup>1</sup>

Many people who have not thought much about it always think of the swings and seesaws and similar apparatus as constituting the playground. However, there are no swings or similar equipment on the grounds of the English preparatory or public schools, and there are practically none on any of the school grounds of Europe. The training which comes from a swing or seesaw is not comparable with the training that comes from baseball or volley ball or basket ball. The prime use of school grounds should always be for vigorous games. However, there is a place for equipment, and in the larger grounds this equipment is valuable.

*The swing.*—In the location of the swings a retired site should be selected. The chief danger is not, as many people think, that the child will fall out, but that children who are running by will be struck. If two heavy children are standing up and swinging hard, a child struck in the head by the swing board will be seriously hurt and may be killed. The swings on the school yards should be for the smaller children, and it is best not to make the swing frame high. Children like best a high frame, but such swings will usually be monopolized by the big children, who might better be playing volley ball or basket ball or taking part in athletics. It is better to put in a frame not more than 10 or 12 feet high, which can be kept for the smaller children. It does not take so much space and is not so dangerous.

Children are apt to dig out the ground under the swings with their feet. If the ground is not very loose water remains there after rains and spatters the children as they go back and forth. It is often necessary to put a wooden or concrete platform under the swings.

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<sup>1</sup> For a fuller discussion of this topic see "The Practical Conduct of Play," by the author.



The swing offers a standard attraction against which the teacher must compete in organizing activities on the playground. If she can make pull away, prisoner's base, volley ball, and other games more attractive than the swings she is a success. The equipment is often a decided handicap in organizing activities.

So far as the swing has physical value this consists in swinging oneself. It is of no advantage for one child to swing another.

Children like to stand up in swings, and they get better exercise in this way. The danger is not considerable. But it is objectionable for girls with white underwear to stand up, and it is particularly objectionable for boys to swing girls who are standing up.

The chief difficulty from equipment, however, is from its use at night. If the swings and other equipment are left up, it sometimes becomes a vicious meeting ground for boys and girls, very objectionable to the neighborhood. It is often best to take down the equipment at night.

*Sand bins.*—The sand bin is always popular with little children. There should be one on every school ground. It does not require a bottom, and will keep moist better if the sand is in direct contact with the earth. The bin may be of concrete or of planks. There should be a molding board or seat around the edge.

The bin should be placed either in the shade of the building, or under a tree or trellis, or a canvas cover should be put over it. It is not best for it to have a permanent cover, as it requires the rain and sunshine to keep it in a sanitary condition. In Germany the sand is changed every week.

It some places spoons and pails are supplied. These always add to the interest, but they are difficult to keep track of, unless the sand bin is in a section which is used more or less exclusively by the kindergarten and first grade, and can be supervised directly by the kindergartner as a part of her work.

*Seesaws.*—The seesaw or tilt is one of the least valuable pieces of apparatus, as it gives little exercise, and children are often hurt standing up on it; or one child slides off the end, and lets the other child down with a bang. It is, however, well liked by children, and is safe if the framework is low and the board is long. It is dangerous otherwise. It should have a handle. There is a kind of seesaw made with a spring which prevents it banging down on the ground.

*Blocks.*—In the school grounds of Gary the children are furnished with large building blocks. Where there is a satisfactory place to keep and use them, they are desirable. The blocks should be of different shapes, but the common ones should be about the size and shape of an ordinary brick, with cylinders and towers which can be used for architectural effects. Children will never use the small blocks sold in toy stores where they can get larger ones.

*The slide.*—The small athletic slide is worth while for the small children. One 12 feet long and 5 feet high can be purchased from the mail-order houses for \$18, while the larger slides, 15 feet long and 7 feet high, can be purchased for \$25. These slides are furnished with a maple board, and have steps going up, and a platform and guide rail at the top which prevents the children from falling off.

Slides are made of steel, oak, or maple. The steel slide is expensive, hot in summer and cold in winter, and rusts after it is worn by the children's shoes and wet by the rain. The maple slide which is made by a Chicago manufacturer can be turned over or detached so as to protect it from the rain, and can be taken in at night. It is a very serviceable slide for school grounds.

Children are sometimes pushed off the slide, but seldom. I have seen children less than 2 years old going down the slide head foremost on their backs, but never known any of them to be much hurt.

*The trapeze and parallel rings.*—If the same apparatus is put into the playground for little children that is put into the ordinary monkey cage, the children will be delighted with it. They love the horizontal ladder. All of the equipment which I have spoken of thus far, except the higher swing, belongs in the playground for the little children.

*The giant stride.*—The giant stride or merry-go-round, as it is often called, consists of a tall steel or wooden pole, usually about 20 feet in height, on the top of which is a rotating wheel or disk, with six ropes or chains usually terminating in a ladder. It is popular with children from 7 to 12 or 13 years of age, and offers considerable exercise.

*Merry-go-round.*—The merry-go-round or revolving platform is a piece of equipment which should not be put into school grounds. It is very expensive, and, outside of furnishing a seat or grand stand, it has no value except for the children who push the others around. Several years ago we put one into a park opposite one of the schools in Washington. At the end of the first week the teachers asked us to take it out, because certain of the children went on it at recess and got so sick they were unable to work for the rest of the forenoon. We put it into another ground with the same result. I am not especially subject to seasickness, as I have never been sick in crossing the ocean several times, but I always feel uncomfortable riding on one of these merry-go-rounds. My working efficiency is cut down from 20 to 50 per cent for an hour afterwards. I believe a merry-go-round will reduce the working efficiency of the children using it at least 20 per cent. This is true also of the board which is fitted on ball bearings or otherwise to the top of a post, where a child lies down and another child whirls him around until he is seasick.

*Benches.*—There ought to be benches on school grounds. It is well to put them around trees or along the side of the playground.

*Responsibility of schools for accidents.*—Six or seven years ago there was an accident on a swing in a school yard at Tacoma, Wash. The parents of the injured child sued the school board, and secured a judgment against it, with the result that the equipment was taken out of many of the school grounds throughout the State. The next year a similar accident occurred in a playground in Milwaukee, but in that case the judgment was against the plaintiff on the ground that the school board in conducting playgrounds was performing a public function and was not liable. Both of these judgments seem questionable. To assert that play equipment is inherently dangerous, and that therefore the school board is liable, is a large assertion, but to assert that the school board is not liable because it is performing a public function is equally questionable. If the school board puts up a swing of faulty construction, and places it in the wrong position, it should be liable, the same as the city is if it leaves unguarded an excavation in the street or across the sidewalks. But there are better grounds for holding the school morally responsible for the scarlet fever, measles, whooping cough, diphtheria, tuberculosis, and anemia that the children contract there. If school boards were to be responsible for a mortality and morbidity more or less traceable to school conditions, it might be necessary for them to abolish the school buildings and to erect playgrounds instead.

*Purchase of equipment.*—There are a dozen or more firms which make a specialty of play equipment. This equipment is expensive. It is, however, substantial, well made, attractive in appearance, and most satisfactory, if the board has the money. The board should not order an equipment set up unless the factory is near. It is much cheaper to order the fittings and have the framework furnished and erected by local people.

*Construction of equipment.*—Equipment may be made either of wood or steel. Most of the equipment of the early days was of wood, unpainted, and

unattractive in appearance. The crossbeam at the top soon rotted out from exposure to the air and rain, and within two or three years, and perhaps in a single year, the posts rotted just at the surface of the ground. These troubles are not necessary. Where a wooden framework is used it should be painted either green or some other color that will harmonize with the ground. The crossbar at the top should be covered with tin or waterproof paint, and the lower part of the posts should be either creosoted or set in waterproof concrete. Under these conditions a wooden framework will last for several years and may be nearly as satisfactory as a steel framework.

However, in general, it is best to use the steel framework, as this is less conspicuous and better looking, more durable, and not much more expensive. The ordinary gas pipe is generally used, though that of double thickness, 2½ inches interior measurement, is often selected for the swings. If the black pipe is used, it must be kept painted to prevent rusting. The galvanized pipe does not require this, but is considerably more expensive. In a good-sized system it is cheaper for the city to construct its own equipment.

The sand bins should be locally constructed. Horizontal ladders, trapeziums, and rings can easily be put up locally. The head of the giant stride, with its ladders, can best be purchased as a rule, and the slide can be purchased nearly as cheaply as it can be made.

*Equipment made by the children.*—In a school system where there are technical high schools, or where there is a good deal of manual training, the children should make the wands and dumb-bells, the jumping standards, the wading pools, and the running tracks, and they may even put up, under supervision, the swing frames and other apparatus. Nearly all of the equipment at Gary is now made by the children.

*Care of equipment.*—Equipment will not take care of itself. Swings especially need to be watched, as the swing is apt to wear through the hook or other attachment at the top, or the links will wear through, or the rope will break, or sometimes be cut by vicious children.

#### SUPPLIES.

Of more importance than apparatus, such as swings and sand bins, are the supplies for games, such as baseballs, basket balls, volley balls, and footballs. Many school boards have taken the attitude that equipment of this sort should be furnished by the children, but they must remember that if a boy brings his baseball to school, it is batted to pieces by 17 other boys, all of whom get as much good out of it as he does.

Where play is put into the program of the school, play supplies become a part of the school equipment in the same way that equipment in a gymnasium does. School boards always expect to furnish pulley weights, dumb-bells, and Indian clubs. They should furnish, likewise, the equipment essential to play. In a large proportion of the cities, and in some of the country districts, this is now being done.

Probably the best arrangement is for the equipment to be furnished to each class, so that when it has a play period it will have its own equipment at hand. For the fifth and sixth grades this should be about as follows: Two playground baseballs, with four bats, two volley balls with two extra bladders, four laces and two needles, and one soccer football. For the seventh and eighth grades there might be added to this one basket ball to each grade, though I do not regard this as essential, as basket ball is not well suited to the elementary school and can not be used as a class exercise. In each classroom there should

be a small cupboard, cabinet, or closet in which these supplies can be kept under lock and key.

Besides this there should be at least one complete set of the same equipment for the school as a whole that can be used before school and after school and on Saturdays, and perhaps an entirely different set for the summer vacation. There should be also a stop watch and a 90-foot tape for each school.

#### TIME FOR PLAY.

The fundamental requirement for getting things done in physical training is time. The tendency is to provide a half hour in excess of recesses. This is already in effect in several of our larger cities, in several States by law, and in many of our colleges and universities. This should be the minimum, beginning with the junior high school. But up to that time all children should have at least one hour a day. This is essential to their health and proper physical development. The chance exercise of city streets does not give the vigor children ought to have. As to whether this hour should be added to the school day or taken from it there is question. In the lower grades it may be well taken from the school day, and in the upper grades it may be added to it. The New Jersey law says that where the day is only five hours in length the half hour of required physical training shall be added to the school day, and in other cases it shall be taken from it. In the State of New York also there is a provision in many cases for beginning 10, 20, or 30 minutes earlier in the morning in order to make provision for this physical activity. In Gary the school day is seven hours in length, while in most European schools it is at least six hours. We shall be justified in adding the hour to the school day if it is necessary, but it scarcely seems necessary in the lower grades.

More important than the time put into the program is the provision that the activities shall be of such nature that the children will carry them on outside. Organized play must furnish interests and enthusiasms for the vacant lots and streets as well. One of the interesting discoveries of the Cleveland survey was that drawing and other art, while fundamental interests of children, were not liked at school as well as arithmetic or geography, while physical training ranked below several other subjects. The games taught in the classrooms were not played outside. The time spent in organized play will always be inconsiderable. The important consideration is that it shall furnish vital interest for leisure hours.

If with our present playgrounds we are to provide adequately for the physical needs of children, it is necessary that they shall be used at maximum efficiency practically all the time from 8 o'clock in the morning until 10 o'clock at night. Besides the regular class periods there should be some one on the grounds to organize and direct the games from 8 o'clock until the beginning of school, during recesses and noons, and after school; also at night if the ground is lighted, and on Saturdays, during the summer time.

#### THE GARY SYSTEM AND ITS MODIFICATIONS.

The system which has probably had the greatest influence on the development of play in this country has been the system inaugurated by Supt. William Wirt at Gary, Ind. In Gary there is a departmental system, beginning with the first grade. The day is lengthened to seven hours, and the children in the first five grades have two hours a day in gymnastics or organized play, while the children from the sixth to the twelfth grade have one hour a day.

There have been criticisms of the execution of this plan in Gary, but there have been few criticisms of the ideal it represents. It has been largely responsible for putting play into the programs of hundreds of schools in other cities. In the recent surveys by the United States Bureau of Education of the city of Memphis and of the Hawaiian Islands, the work-play-study method was recommended. Nearly every large city is now experimenting with some phase of this method.

*The platoon system.*—The system used in the cities of Pittsburgh and Detroit is known as the platoon system. This has recently been adopted in the city of Detroit, and all new buildings are to be built to accommodate schools of this type. A very admirable report covering every phase of the subject has recently been issued by Asst. Supt. Spain, from which I quote as follows:

In the fall of 1918 the platoon organization was installed in 6 schools. In the fall of 1919, 9 additional schools were provided with this form of organization. At this date (May 1, 1920) 6 platoon schools have been in operation for a year and nine months and 9 schools for nine months. The data submitted in this report and the conclusions reached are based upon the observation and investigation of the work as carried on in the entire 15 schools.

In several of the 15 schools the platoon organization includes the first and second grades, but in the majority it does not extend below the third grade.

The standard school day adopted is six hours long—a three-hour session in the morning and a three-hour session in the afternoon.

Each pupil spends 90 minutes of the morning in the "home room" under the control of the home-room teacher and the remaining 90 minutes of the morning in the special activities—spending 30 minutes in each of three special rooms. In the afternoon he again spends 90 minutes in the home room and the remaining 90 minutes in three special rooms.

No teacher is expected to teach over five hours a day and each teacher consequently is entitled to two half-hour rest periods daily. To provide for this, relief teachers are employed who have no regular rooms but go from room to room relieving other teachers.

In addition to the regular half-hour daily for physical work, it is desirable to schedule a daily period for each pupil for play.

Scheduling a daily outdoor play period for each child presupposes a place to play. Theoretically it means that the playground will be used every day. Practically this is impossible, although it can be used a much larger percentage of the time than it is ordinarily used in elementary schools. In schools in which we now schedule a play period for each child every day, the program provides an alternative exercise in case of inclement weather.

In the new buildings now under construction we shall provide for this space by building covered outdoor play courts or roof playgrounds in addition to the gymnasium.

The platoon school provides 30 minutes daily in the auditorium for every pupil.

Two glass-covered play courts, usable throughout the year, are planned for the new school, with their combined capacity 80 pupils each period of the day. Their total daily capacity is 960 pupils.

Taken as a whole the results from standard tests show that in both actual and comparative achievement, in efficiency of instruction, in type of children affected, and in the efficiency of supervisory control, the platoon schools in Detroit have, so far, done fully as well as the conventional city schools so far as instruction in the drill subjects measured is concerned, and probably a little better.

The opinion has been expressed that frequent changes of classes in platoon schools make for disorder and confusion. In a word, it is thought that freedom tends to degenerate into license. The exact opposite is the fact. It is the almost unanimous opinion of principals, teachers, and others who visit the platoon schools that there are no finer examples of self-restraint and self-control than are to be found in these schools. They must be studied at close range to be appreciated. The truth is that the platoon-school child is too happy, too much interested in his work, and too busy doing things that he finds joy in doing to find time to be disorderly. It is the dull monotony of the regular school

routine and the intense desire for physical relief and relaxation that make for disorder.

In the light of the facts revealed by this experiment, Detroit has determined upon the gradual reorganization of the elementary system on the platoon-school basis.

Fifteen platoon schools are now organized. With the completion of the new schools now under construction, there will be 30 platoon schools by January, 1921. The new 1920-21 building program, for which funds are now available, will provide for a number of additional schools of this type. There will be at least 50 platoon schools by January, 1922.

There is also a report of the McKelvey platoon school, Pittsburgh, by the principal, William F. Kennedy, which shows similar results. Pittsburgh has been experimenting with the platoon system for three or four years, and is increasing the number of its platoon schools each year.

Since this system proves to be cheaper to construct and to maintain, since it is better liked by principals, teachers, pupils, and parents, since it yields larger returns in the ordinary classroom subjects, while giving culture in a dozen by-products, equally important, there seems to be no reason why it should not become the educational policy of this country.

### THE GYMNASIUM.

It is of advantage for a school to have a gymnasium, as the weather is often not suitable for exercise out of doors. A gymnasium permits a program to be carried out without interruptions due to weather. It is available at night, and makes class work easier. Nevertheless, it must not be thought that a gymnasium is indispensable to a system of physical training. Most of our gymnasiums consist mainly of basket-ball courts with roofs. Exercise is much better taken in the open air than indoors. Calisthenics, wand, and dumb-bell drills, games, and many dances are better out of doors when the weather is pleasant.

### ATHLETICS.<sup>3</sup>

Athletics is an old racial activity. It represents in modern life the activities of the savage, who must constantly run, jump, climb, throw, and strike. These activities not only furnish the elements of all athletics, but of all games as well.

Athletics have often been in disrepute among educators. Until the last decade they were usually under the control of the student body, and were carried on to win victories. They brought into training only those who were strongest and most capable, whom they often overtrained and made onesided. The sportsmanship represented was sometimes a denial of all of the ideals of Christianity and gentlemanly conduct. The taking over of athletics by the school systems of America is one of the greatest events in ethical training now taking place.

*Medical examination.*—There is always danger of strains in connection with athletics. If children are to take part in the more violent forms, such as basket ball and the longer runs, a physical examination should be required.

*The elementary period.*—It is during the elementary period that there is the greatest restlessness. Pedometer records show that the greatest physical activity is at that time. If 100 college students were challenged to run a 100-yard dash, probably not more than 20 would run; perhaps 40 in the high school would run, while practically everyone at the age of 10 or 11 would run. Children of the elementary period love to run for the sake of running, and to jump for the sake of jumping.

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<sup>3</sup> For fuller treatment consult "Education through Play," by the author.

*Athletics for girls.*—Spencer, in his essay on physical education, speaking of the absence of bolsterous play of any sort in schools for girls, says:

It appears on inquiry that at "establishments for young ladies," noisy play like that daily indulged in by boys is a punishable offense, and it is inferred that this noisy play is forbidden, lest unladylike habits should be formed.

Girls have been greatly handicapped by the attitude of the public toward them in this regard. They are usually dressed better than their brothers, and required to keep their clothes cleaner; they usually have tighter shoes, less suited to outdoor exercise. Their short skirts and white underwear do not allow them to climb or fall down and seem modest. The long skirts which they put on at 13, and especially hobble skirts and high heels, practically prohibit vigorous exercise. The girl is not encouraged by her parents or the community to take part in vigorous games as her brother is, and is apt to be called a tomboy or a hoyden if she runs or jumps, or climbs, or plays baseball, as her brother does. Excellence in games does not confer upon her the same distinction as it does upon a boy. It is possible also that she does not inherit quite the same interest in competitions of a vigorous nature that her brother does. However, it would appear that the good physical development, good health, good complexion, bright eyes, and glossy hair which are results of abundant exercise in the open air, are a greater asset to a girl than to a boy.

Most of the handicaps to which woman is subject on account of her sex are unnecessary handicaps, due either to vicious suggestion, or to the fact that girls have not had during childhood a normal physical life. Girls who have had a vigorous outdoor life are seldom periodic invalids each month. In the school of physical education at New Haven these periods are disregarded, except in swimming, apparently to the advantage of the girls in every way. Recent studies at Columbia under the direction of Prof. Thorndyke show that there is apparently no greater fatigue in doing either mental or physical work, and no greater nervous instability during this period. There is no reason why a young woman should not compete with a young man on nearly equal terms in almost any line of effort provided she has had as healthy and wholesome a childhood and developed as robust a physique as he. But the most important reason for caring for the girl's health and physical development, however, is motherhood. The health of the mother is much more significant to the race than the health of the father, because her health determines the child's, not only at the moment of conception but during the period of gestation and nursing as well, and the start which the child gets from being nursed by a healthy mother apparently makes him more vigorous throughout all his childhood.

Girls of 10 or 11 can run as fast as their brothers of the same age, and there is no reason why they should not take part in contests of this sort. There seems no reason why they should not jump nearly or quite as well. Girls who start early and play regularly will play indoor baseball, volley ball, and tennis nearly as well as boys of the same age.

*Running track.*—Along the side of all our larger school grounds there ought to be a straightaway running track about 100 yards in length, and 10 or 12 feet wide. The cinders may be taken from the furnace to make this, but they will need to be rolled with a heavy roller, or crushed, or ground. The 50, 60, 75, and 100 yard distances should be marked by posts at the side. There ought to be a stop watch for every school, that the children may be timed; though this may be done with an ordinary watch where the competitions are by classes.

*Jumping pit.*—There should be a jumping pit also at the side of every ground, and standards for the high jump. Children love to jump, but in most

places they will be found to be jumping upon the hard ground. It takes less than half an hour to excavate a jumping pit. A take-off board about 6 or 8 inches wide and 5 feet long should be set in the ground level with the surface, as a starting point, and then the pit should be either kept spaded up or filled in with sand, sawdust, shavings, or some other soft substance. It is well to have the distances marked on a board at the side of the jumping pit.

*The horizontal bar.*—There should be at least two horizontal bars, one at a height of about 5 feet 6 inches and the other at a height of 6 feet 6 inches. It is well to excavate under these bars and put in sand, shavings, or sawdust. No one cares to exercise in a gymnasium without a mat underneath. A fall from a high horizontal bar upon hard ground may result in serious injury.

*Class athletics.*—With the running track, jumping pit, and horizontal bar, it is possible to carry on the tests for the Public School Athletic League. The first test is that the boy shall run the 60-yard dash in 8½ seconds, jump 5 feet 9 inches standing, and chin the bar four times. In New York, under Dr. Gulick, the competitions were by classes, the rule being that, in order for a class to compete, 80 per cent of the members must take part. In the competition of a class, there must be one teacher at the starting line and another at the finish. At the start the teacher waits until the second hand is at the minute mark and starts the first boy running. When the first boy crosses the line, the man at the finish brings down his hand to start the second boy, and so on until all have run. If 40 boys are running, and the time is found to be 320 seconds for the 60-yard dash, the average time, or the class average is 8 seconds.

In Oakland and Detroit the athletic league test is expanded into a pentathlon for girls and a decathlon for boys, participated in by most children from the fifth to the eighth grade. For a fuller account see reports from those cities.

*Efficiency test.*—The efficiency test is much the same as the class athletics test. In most cases the standard test of the Public School Athletic League is used, though in some cases a number of other tests are added, and there may be a graded system of scoring according to accomplishment. The following are the instructions and results for the schools of New York State:

Eighty per cent of the pupils enrolled April 25 over 8 years of age (having had their eighth birthday on or before April 25) must be tested in the three events listed below between the dates April 25 and May 21, their results tabulated as outlined below, and report sent on blank similar to form herewith to the district superintendent of schools on or before May 23.

*Medical safeguards.* The school medical certificate should be consulted to determine the physical fitness of each individual to compete in the contest. If the teacher is in doubt about the condition of any pupil the child should be referred to the school medical authority for examination before being allowed to try the events. \* \* \*

Eighty per cent of the enrollment of all schools entering were tested between May 1 and May 22, and results from 58 cities and 203 villages, involving nearly 300,000 school children, were computed and forwarded to the State department before May 26.

*Special suits.*—An objection often made to athletics and play periods on school grounds is that the children go out in their ordinary clothes, run, jump, and play until they are covered with perspiration, and then go in to sit down without changing their clothes, and are likely to catch cold. This is a real evil, yet we must remember also that manual workers do this every day, and that all of us do it more or less in summer. We can not expect the woodcutter, or mechanic, or farmer to take a dozen baths a day. There is an advantage, however, in changing to a special athletic suit and taking a shower afterward. This is the custom with college teams. It has always been the practice also in the preparatory and public schools in England, and there is no reason why



boys should not change for athletics on the school ground in the same way that they do for gymnastics. The only requisite is that the period shall be long enough so that too much of the time will not be wasted in changing clothes.

*In the high schools.*—The difficulty in the organization of play in the elementary school is that the teachers are classroom teachers, without special training. But with the junior high school, where the teachers are specialists, there should be an adequate supply of physical trainers. From the seventh grade on it should be possible to provide a period of physical training for all children every day.

#### A CURRICULUM OF PLAY.

Probably not more than two million out of the twenty-five million school children in the United States have access to a gymnasium, and the number may not be more than 1,000,000. The only method of physical training that is available to all is athletics and play. It is obvious, however, that games have different physical, social, and moral values. We are now getting curricula of games in our State and city syllabi of training. There are many advantages from vigorous play in the open air which can not be had in a gymnasium. Children who have been sitting in cramped posture in school, oftentimes at desks not fitted to them, become restless and need physical relief; but quite as much they need also the fresh air of outdoors, complete relaxation from the effort of attention and study, and the social opportunity which comes from playing together, for it is in these relations of play that children learn how to give and take and to get on with each other. The boy who does callisthenics to order is getting physical exercise and nothing else, but the one who plays baseball is getting physical exercise for nearly every muscle, and he is also getting the open air, the most intense sort of social training, and a development of judgment such as he can get in hardly any other way.

The requirements which any game must satisfy, if it is to meet the needs of the school, are that it shall economize space; that all the children can play it; that it be reasonably safe; and that the children will carry it on outside of school and after their school days are over, so that it may meet the need of recreation in an age which is getting more and more leisure time without many new vital interests to fill it. We may safely leave to the kindergartner the play of the kindergarten and the first and second grades. Beginning, however, as low as the second grade, children take great interest not only in the ring games of the kindergarten but also in such games as slapjack, whip tag, cat and mouse, Jacob and Rachel, and squirrel in a tree. When they are a little older they are fond of three deep, prisoner's base, pull away, and the like. For the older children there are three games which meet fairly well the conditions. The one which meets all of these best is volley ball. Volley ball is an admirable school game, because the equipment is simple and inexpensive. It is played over a net, which for the elementary school should be about 7 feet high, and perhaps 8 feet high for the high school. It keeps the head up and the shoulders back. It is the best corrective we have of the bad postures of the school. There may be as many as 600 players on an acre of ground. It is played by girls as much as boys. A class of 40 can be taken into the ground to have two games of volley ball at the same time. This will give them a better period of physical training than they could have in any kind of gymnasium, and they will get at the same time relief from the conditions of the classroom, complete relaxation from their studies, and the social opportunity which comes from playing together. There is also every probability that this game will be carried on into adult years. Almost the only game that business men are playing in our Y. M. C. A.'s is the game of volley ball. Volley

ball is played either indoors or out, and it can be played every month of the year out of doors, as it may be played satisfactorily with mittens on.

A second admirable game for school use is playground baseball, with a 16 or 17-inch ball, if the ground is small, or with a 14-inch ball, if the ground is larger. There should be at least one diamond for the girls and one for the boys on every school ground, with the distances definitely marked. For the older children, with a 14-inch ball, 45-foot diamond will be about right, while, if they use a 17-inch ball, the diamond should not be more than 35 feet on a side. It is well to play with 10 players, using two shortstops.

Soccer football is another admirable game for school grounds. Boys love it from the time they are 9 or 10 years of age. It is compulsory in the preparatory schools of England from the time the boys are 8 years old. In this game there is no tackling, and the person is not allowed to touch the ball with his hands or arms. The skill consists mostly in dribbling the ball with the feet and passing it along to other players on the same side. It is played to a considerable extent by the girls in the English high schools and also by some of the high schools in the East. Nearly all of the larger colleges and normal schools for women also have teams. Soccer is not as rough as basket ball, and is not unadapted to girls' play, if the local traditions are not too much against it.

Of course most of the older boys and girls want to play basket ball, and basket ball has its advantages, but it can not well be put into the program as these other games can, because it does not take enough players and because there are always some who can not stand the strain. The effort is more continuous in basket ball than in football, and the strain should not be incurred without a thorough physical examination.

*Classroom games.*—When play is in the program and the weather is disagreeable, the period may be taken by play in the classroom. There are a number of classroom games which offer satisfactory exercise and relaxation.<sup>1</sup> All the windows should be open.

*A covered play court.*—There should be some covered place where children can play in bad weather. Some teachers think children should not play out of doors if the weather is cold or snowy, though it is often at these times that the children themselves prefer to be outdoors. There is no objection on their part to weather around zero, if they do not stay out too long. In New York schools the first floor is a covered play court. In some of the new schools in Portland, Oreg., a play court has been covered with glass. Each of the new schools in Detroit has two glassed play courts.

*Folk dances.*—There has been a great increase in dancing during the last two decades. The most wholesome form which this has taken is folk dancing. Girls like these dances, and some of them are pretty. When danced in costume they make an interesting feature at a school exhibition and often interest the neighborhood as well. Most of them give excellent exercise, and many can be danced out of doors on any smooth space to the music of a victrola.

*School without a playground.*—There are many schools in the United States that have no playground, and for them the situation is serious, but it is still possible to secure much outdoor exercise and play. Many of the German schools have no playgrounds, but they arrange with the park department for the use of the municipal playgrounds at certain hours. The only way that I can see that municipal playgrounds of our cities can be used during the day is for the schools to use them, and if the children have a physical-training period of an hour or more, it is quite possible for this to be done. It is wicked to allow the playgrounds of a crowded city to lie idle most of the day.

<sup>1</sup> See Bancroft's Games for the Playground, Home, School, and Gymnasium.

In many cases it may be possible for the children to use some skating pond in the neighborhood in the winter. Skating is always popular.

The forms of exercise which are really most feasible, however, for such schools are school excursions or hikes and cross-country running for the older boys. These are entirely practical for nearly all schools except those which are situated centrally in our great cities, and even for them walking trips of interest can be taken to various points about the city.

All these schools which are without playgrounds should organize the older boys and girls into Boy and Girl Scouts and Camp Fire Girls, so far as possible, so that they will take the exercise and games which are suggested by these organizations. It is always possible, too, that teams and leagues may be organized at the school which will play off contests and carry on their athletics on a ground which may be at some distance from the school.

Every school that is without a playground adjacent to it should manage, if possible, to have a week-end and summer camp where its students may go to get the exercise and open air for which they do not have an opportunity during the year. Some of the larger schools in the Hawaiian Islands have week-end cottages to which both students and teachers go at different times.

*A school on a hill.*—Athletics and play are difficult for a city that is set on a hill, because there are very few things that can be done on a hillside except to slide down in the wintertime. The ground must be terraced in order to play games upon it. It is almost impossible in most cases to get a large enough level space in hill cities to play much if any baseball, but volley ball and playground baseball may still be played. It is easy to find a place for such vigorous games as three deep, dodge ball, and tether ball, and abundant space can be found for equipment for the little children; so the situation is not entirely irremediable.

#### SPECIAL PLAYGROUND FOR ATYPICAL CHILDREN.

The physical examinations have shown that there are a considerable number of children in all of our schools who do not profit by the regular program. Among these are children who are tubercular, anemic, nervous, undernourished, or who have some structural defect of the heart. The tendency is to put these children into open-air schools, to give them special lunches in the morning and afternoon, and to restrict their exercise to the less violent forms. There were 7 playgrounds for undernourished children in the city of New York in the summer of 1920. Special schools for undernourished and tubercular are being started in many places. There are also 11 schools in New York in which there are special classes for children who have heart trouble. All of these children need a type of playground which will permit them to live most of the time in the open air, to have moderate exercise with frequent rests, and at least two good lunches besides their noon lunch each day.

#### THE SCHOOL EXCURSION.

The United States has done less with school excursions than many other countries. Sixty-five hundred children went out from the city of Berlin alone for walks of one week or more in duration during the summer of 1913. The new code for Prussia requires one whole day walking trip each month for all school children.

Similar walks are taken from the schools of Scandinavia and of England, though not to so great an extent.

Children should be taken to see points of interest about their city as a method of developing civic interest and loyalty, as a means of interesting them in different trades and professions looking toward a final choice for themselves, for the sake of the physical exercise involved, and for the general educational value and information which such trips convey.

The world of books must be interpreted by a world that has been seen, touched, and handled. The only way we can test the accuracy of the things we read is by first-hand experience. There are dozens, if not hundreds, of points of interest in each town and its environs which should be visited by children. In New York State provision is made for nature-study and similar trips between 3 and 4 o'clock in the afternoon. For any of the longer trips, however, an entire half day will be needed, and Friday afternoons might often be well spent in this way.

#### WHO IS TO HAVE CHARGE?

There are two types of playgrounds in most of our larger American cities, one of which is known as a park or municipal playground, the other as a school playground. In a number of cities a recreation commission has been appointed to organize these different activities, and in some cases the work both on school and municipal grounds is under the control of this single body. The only large city in the country, however, where there is complete unity and the work of the playgrounds and in the public schools is under a single supervisor is in Oakland, Calif., where the physical director has charge of all physical training in the schools and of play on school, on park, and municipal grounds. In the city of Detroit the recreation secretary has charge of the play on the school grounds during the summer and after school and on Saturdays, as well as the municipal grounds, but does not have charge of the physical training in the schools.

However, the play of school children is a school problem, and the school can not as a rule intrust it to a recreation commission or any other body. So far as play is organized into the program, to relegate it to any other body is to break the unity of control.

*The unsupervised playground.*—Before discussing further the problem of organized play it may be well to consider what happens on the ground where there is no supervision. It is to be feared that many teachers do not know very well just what is going on. Children who come from good homes learn bad language and hear objectionable things in the unsupervised time on the school playground. There are vicious older boys and girls on nearly all school grounds who have had wrong experiences, and when these children get together, or have nothing to do but gossip with younger children, they may corrupt a large number. A girl can play basket ball with five loose girls without suffering from it, but let her gossip with these girls for half an hour and it may take a lifetime to overcome the effects of this half hour's gossip. The only way that the atmosphere can be kept clean on the school grounds is to keep something going on.

Many parents of little children are made painfully aware by the tales daily brought home, even if they have forgotten their own childhood, how often little children are misused and illtreated by older children. There seems to be a streak of pure cussedness in boys about 13 or 14 years of age which often leads them to all kinds of cruel treatment of younger children.

We who have watched school grounds where play is unsupervised know that there is not only much bad language and bad conduct, but that the play is mostly horseplay, where the special delight is to trip one another or steal each

other's hats or coats; that so far as there is play it is play almost absolutely without ideals of sportsmanship; that it does not train in any of those manly and chivalric qualities which make sportsman a name almost synonymous with gentleman.

It is a question whether physical activities at the school are to fall to physical training teachers, or whether there is to be a supervisor of physical training for the system such as we have in drawing and music, and the individual work is to be done by class teachers. Both of these methods are used in different places. In the junior high school and high school, and wherever the platoon or Gary system is organized, the physical training should naturally fall to physical directors, but where the old system prevails, and the children do not change classes, it must be carried on largely by classroom teachers.

There are advantages in having the regular class teacher take charge. The teachers need the exercise as much as the children, and play together brings about a more intimate sympathy and understanding. It often solves the problem of discipline.

We are all familiar with the system of teaching as established by Bell and Lancaster in England. Supt. Wirt arranges for high-school pupils to do apprentice work in organizing games and athletics the same as in cabinetmaking, printing, and other crafts, and the New York State syllabus makes the following provision for the organization of play by older children:

Older pupils should be trained to direct the group plays and games of the younger group and used as leaders while the teacher is busy with older children. This should be a definite part of the training of the older pupils, who should also be given experience in taking charge of the "B" work. Make it an honor at first, using those who have made best progress, but give all a chance sooner or later.

This seems to be almost the only way that play can be organized adequately in many rural schools. Older pupils or squad leaders may be very effective assistants.

Such assistance of little children in their play is one of the ways by which Camp Fire Girls may receive honors. It is a necessary part in the training of every girl if she is to be a capable mother and a real playfellow with her own children. For many years this has been a contemplated requirement for all girls in both Scandinavia and Germany. At puberty comes the dawn of many of the altruistic feelings which find best expression in some form of social service. It is good for the young people as well as the children to do this work. Those who have read Tom Brown at Rugby will remember that one of the crises in Tom's life came when he was given a younger and more delicate boy to care for. There is a great deal of misuse of younger children by older children on school grounds, and anything which can develop in young adolescents the protecting parental attitude will be a great advantage.

*Need of workers.*—The great handicap under which the movement for universal physical training will suffer for the next decade is the lack of trained workers. Mr. Hetherington, State director of physical training for California, estimates that 45,000 teachers are needed at once, and that there are only 3,000 students in all the physical training schools of the country. Mr. Daniel Chase, director of physical training for the State of New York, estimates that a physical director is needed for each 300 pupils in the junior and senior high schools, and for each 4,000 pupils where the individual work is done by the classroom teacher.

*Departments of physical training in connection with the normals.*—Each State should establish in connection with at least one of its normal schools a

school for the training of physical directors. Several have been established during the last two years, but not enough as yet to meet the need.

*The training of the regular teachers.*—Probably two-thirds to three-fourths of all the children who receive instruction in physical training during the next decade will receive it from their regular teachers, and the great problem of the immediate future is to give these teachers the knowledge of games and interest in them, as well as equipment which will enable them to carry on the work. Courses in games and folk dances should be required at all normal schools, and the subject should be on the programs of all county institutes.

The work given in normal schools thus far has not been well suited to school uses, as it has consisted mostly of baseball, football, basket ball, hockey, and tennis. Few school yards have provision or space sufficient for these games. They are not games primarily of the elementary school, and can not be put into their programs. With the exception of tennis they are not continued after school days are over, and they do not meet the need of pleasurable activities for increasing leisure hours.

### THE COMMUNITY CENTER.

The hours of workingmen have been greatly reduced during the last decade. The saloon, which has often been the poor man's club, has been closed. The heavy work has fallen largely to machines. All trades tend to become professions, and none of them are yielding the physical training which they did 40 or 50 years ago. We have here a new problem in training for the leisure time of adults. The school must furnish activities that will be carried on after the school years have passed. The use of the school building by adults in the evening is increasing rapidly, and there is reason to expect a continued growth. Our new school buildings are better adapted for adult use, and groups are becoming better organized. For this center to be a really efficient neighborhood capitol the various recreational features should be concentrated.

*The library.*—Reading is the chief form of recreation of adults, yet where libraries are in separate buildings few people use them regularly. The experience of the last 10 years has demonstrated that the best place for a branch library is a wing of a public school. With the library in this location the children use the books in their school work, and they also take home books to their parents. The branch library is a drawing card to the community center also.

*The swimming pool.*—Many of our new high and elementary schools, as well as most of our new college gymnasiums, are provided with swimming pools. There is greater interest in swimming, and the art is more easily acquired at the age of 10 or 11 than it is at 20 or 21. If the pool is located at the school, it can be used by the school during the day and by the community at night. A much higher efficiency can be secured than if it were in a separate building.

*The auditorium.*—Most of our new high schools and many of our new elementary schools have splendid auditoriums. The auditorium is essential to school spirit, and it gives the principal an opportunity to meet the entire school. Most auditoriums are used less than half an hour a day. Such an auditorium would cost \$100 or more an evening, if it were rented. It is owned by the people and should be more largely used. Our best dramas, especially Shakespearean and other classic plays might well be given in the school auditorium instead of a down-town theater. In this way the company might be insured of an initial audience which would help guarantee success. Since no rent would be necessary, plays could be given in the school at not more than half the price charged down town.

In a school auditorium that will seat 1,000 people, a moving picture, for which a charge of 30 or 40 cents would be made at a down-town theater, can be offered at a profit for 10 cents. The great difficulty with the moving picture situation is that it is so difficult to secure good films. In order to provide suitable films for its social centers the State of North Carolina found it necessary to purchase them. This will probably be found to be the only practicable method in cities also.

The auditorium gives an opportunity also for community singing and community drama, public lectures, and public forums.

*A gymnasium.*—Most of our new high schools and many of our new public schools have gymnasiums, and in many cases these are used every night of the week.

*The restaurant.*—Most of our new schools have at least a school lunch counter or dining room, which is used during the noon hour. The community center, however, often wants spreads and light refreshments at its social gatherings. This must come either through the use of the domestic economy rooms or by keeping the school restaurant open. Light refreshments, soft drinks, and ice cream should always be available. This would be the best substitute for the saloon that could be found.

*Lighting the ground at night.*—Wherever playgrounds are lighted at night they always have a larger attendance in the evening during the summer months at least than during the day. With modern lighting it is possible to play adequately volley ball, basket ball, playground baseball, and tennis at night, and to have most forms of field athletics. Playgrounds were lighted in 127 cities last year. Lighting would be especially desirable in the South, as the evening is there better suited to vigorous sports than the afternoon during much of the year.

*A residence.*—If a real neighborhood capitol is to be built it is necessary that there should be some one in residence. There should be also a community house, which might serve as a meeting place for the Boy Scouts and Camp Fire Girls, Mothers' Clubs, and the like, and also as a residence for the workers in the community center and the playground, and for such of the teachers as wish to live there. They should be able to get their meals reasonably at the school restaurant. The school and community center might thus become a great social enterprise, similar to a settlement but having the advantage of public support and public control. The new intermediate schools of Detroit have two community club rooms.

*The post office.*—In one of the community centers in Washington, under the direction of Mr. Edward J. Ward, a branch post office has been organized. This has received by parcel post large quantities of vegetables and eggs directly from the country and oysters from the shore. It has done a large business.

It would often be advantageous to have a branch post office at the community center. The children could take home the mail from school.

*A health center.*—Many child-welfare centers have been established during the last decade in our large cities. These are usually the headquarters of the medical inspector and the school nurse of the district. To them come expectant mothers and mothers with babies for instruction as to their care and feeding. The dental clinic and the operating room for the removal of adenoids and enlarged tonsils may be here. These operations are likely to be neglected unless they are made cheap.

Our present child-welfare movement has grown largely out of the consultations for mothers which were established in Belgium in 1900. These taught mothers the necessity of nursing their children and of care in sterilizing bottles and securing pure milk where nursing was impossible.

Instruction was given to older girls in the care of babies in 42 Massachusetts cities and 85 Pennsylvania high schools last year. Training for motherhood is a coming subject in the high schools and colleges. With such a children's clinic at the school, it should be possible to teach all older girls something of the hygiene of infancy, how to bathe and clothe the baby, and the necessity of nursing.

*The day nursery.*—The number of women in wage-earning occupations is increasing every year, and with present high prices it is necessary in many families for even mothers with little children to work. There are a number of day nurseries in the school system of Los Angeles, and girls from the high school do a certain amount of apprentice work in caring for these children.

Such a day nursery should be open in the evening as well as by day. In some cases it might be in the sole charge of an older girl. This would permit mothers to attend meetings at the community center.

Where the various social features are concentrated, the community center becomes a social department store; each feature in the plan increases the attendance at every other. Those who come to use the library stay to use the swimming pool and the gymnasium, and those who come for the swimming pool go also to the auditorium and the library. The residence and the restaurant are essential to the complete success of this plan. A residence is furnished for the director on all of the municipal playgrounds of Los Angeles, and on some of those in other cities. It would contribute greatly to the social success of the plan, and in some cases might be the easiest solution for board and room of substitute teachers and others just coming into the system. It would be somewhat cheaper also to build these various features together than to build them separately.

#### THE SUMMER VACATION.

When the movement for organized play was first started, the feeling was that it was to be primarily a movement for the summer, when school was not in session. This is still the time of greatest opportunity. Nearly all adequate school grounds in congested sections should be open in summer with some one in charge.

The voluntary summer playground, however, does not solve the problem of child idleness. Probably there is not a city in America where a voluntary play system is securing an attendance which, distributed over all the children of the city, would amount to more than 15 or 20 minutes a day. As this leaves 10 or 12 hours for the streets and vacant lots, its value is to be measured mainly in the extent to which it is able to determine ideals and to furnish games and activities which will be carried on outside of the school ground.

*A play school.*\*—The great difficulty in the past with the organization of summer work by the school board has been that the whole executive force of the school department went out of existence at some time in June, and there was no one who could supervise the work. During the last two decades there has been a great increase in the activities of the summer. The tendency is for a four-term school. In most European countries the summer vacation is only five or six weeks in length.

First came regular classes for children who wished to make up grades or to do extra work, and that they might be promoted. Now there is a general tendency to open the domestic-economy and manual-training rooms, and school playgrounds for organized play and athletics more and more.

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\* For a fuller treatment of this subject, see "Recreation for teachers," by the author.



In a summer term there should be a four-day week with not less than an hour a day given to reading, which in the lower grades might be largely story-telling or the reading of fairy tales, and in the higher grades might be largely geographical and historical stories. School and home gardens should be carried on. All the shops and industrial crafts should be kept in operation. An increased emphasis should be given to drawing and music, and to moving pictures or dramatics in the auditorium. There should be about two hours a day of organized games. The older boys should be organized into Boy Scouts and the older girls into Girl Scouts or Camp Fire Girls. Both girls and boys might gain most of the honors by which they advance to higher degrees in scouting and camp fire from the industrial work of the summer. There should be provision for a week-end camp to which both the boys and girls might go separately. There should be adequate opportunities for all-day walking trips, which would take the children not only to every point of civic and historic and industrial interest about the city but out into the country for nature study, the making of collections, and studying of points of interest in the environs.

*Summer camp.*—The city is a poor place for children at best during the summertime, and nearly all parents who can afford it take their children away to the country or the shore or the mountains. In a number of foreign countries there is some systematic arrangement for carrying this out. More than 30 per cent of the children were sent out from the schools of Copenhagen into the country during the summer of 1914. The same arrangement prevails in many of the German cities, and in Japan country children are often sent into the city, and city children are sent out into the country. In Brussels in 1914 there were five summer camps in connection with the school system.

It is impossible to state just how many summer camps there are in the United States, but all the larger Boy Scout troops and some of the Girl Scouts and Camp Fire Girls have camps of their own. Practically all of the larger settlements and most of the Y. M. C. A.'s also have camps. The playground systems in some of our eastern cities and in nearly all of the western cities also have summer camps. Many private camps are springing up in the mountains and at the shore, but these are extremely expensive for the most part, often charging as high as \$30 or \$40 a week.

The type of camp which would be most beneficial need not cost much more than it would for the children to stay at home. Each school system should secure a good-sized farm not too far out of the city and erect dormitories for a considerable number of children. There should be an arrangement so that the boys would do gardening and farm work in the forenoon and the girls do gardening and a good share of the cooking and housekeeping. If the morning were devoted to work and all the children had the afternoon free for swimming, athletics, making collections, and the like, and the evening for motion pictures, music, and games, it would be both educational and pleasant.

It might be better if each of the large city schools had a camp of its own and sent its own children to its own camp, as the settlement does. This should be simpler and cheaper for the school than for the settlement because the larger city schools have a larger clientele and the parents have great confidence in school authorities and school-teachers.

It would be desirable that a large number of children 8 years of age or more should go to such a camp and stay all summer, for it is one of the inalienable rights of childhood to see the open sky and fields occasionally. It should be in the plan of the play school that each child should have two weeks at such a camp each summer. It is an advantage for children to gain the inde-

pendence and resourcefulness which come from being away from their parents occasionally. It is also an advantage for parents to have occasional relief from caring for their children.

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# EDUCATIONAL WORK OF THE GIRL SCOUTS

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EDUCATIONAL SECRETARY GIRL SCOUTS

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# EDUCATIONAL WORK OF THE GIRL SCOUTS.

By LOUISE STEVENS BRYANT,  
*Educational Secretary, Girl Scouts.*

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CONTENTS.—History and growth—Activities—Methods—Organization.

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Do you believe that girls should like to work at home, to cook and clean house and mind the baby? Do you believe that a girl should like to take care of her clothes and be able to make them; that she should know how to be thrifty and to conserve the family money in buying and using food and clothing; that she should play a fair game and put the group above her personal interests? Do you believe that she should value a strong healthy body above clothes and cosmetics, and rejoice in the hope of being some day the healthy mother of healthy children?

If you do, you believe in the Girl Scouts, for in this organization the girls learn all these things in such a happy way that they *like* to do them, which means that they keep on doing them.

The Girl Scouts, a national organization, is open to any girl who expresses her desire to join, and voluntarily accepts the promise and the laws. The object of the Girl Scouts is to bring to all girls the opportunity for group experience, outdoor life, and to learn through work, but more by play, to serve their community. Patterned after the Girl Guides of England, the sister organization of the Boy Scouts, the Girl Scouts have developed a method of self-government and a variety of activities that appear to be well suited to the desires of the girls, as the 89,864 scouts and the 2,500 new applicants each month testify.

## HISTORY AND GROWTH.

Girl Scouts and their leaders, to the number of 89,864, were in 1920 organized in every State, and in Hawaii, Porto Rico, and Alaska. There are troops in 1,400 cities, and local councils in 162 places. This represents a tremendous growth since the founding by Mrs. Juliette Low in March, 1912, of a handful of enthusiastic "Girl Guides" in Savannah, Ga. In 1915 the growth of the movement warranted its national incorporation; so headquarters were established in Washington, D. C., and the name changed to Girl Scouts, Incorporated. In 1916 the headquarters were removed to New York, and are now located at 189 Lexington Avenue.

From the start the organization has been nonsectarian and open to all races and nationalities. Through the International Council the Girl Scouts are affiliated with the Girl Guides of England and all parts of the British Empire, and similar organizations in other parts of the world.

At the 1920 meeting of the international conference at London, reports were received from Italy, France, Belgium, Switzerland, Poland, Norway, Sweden, Denmark, Holland, Portugal, Russia, Czechoslovakia, Brazil, Argentina, Japan, China, and Siberia, as well as from all parts of the British Empire, and the United States.

From a membership of 9,769 in January, 1918, the girl scouts grew to 89,864 in 1921, at the rate of nearly 10 to 1 in three years. The greatest relative growth was in 1918, when the membership grew fourfold. During 1919 the increase over the preceding year was more than two-thirds, while in 1920 the relative increase was one-third. The details are as shown in the accompanying table.

This growth is due to a spontaneous demand of community after community for scouting for girls, and not to deliberate propaganda on the part of the national headquarters. The reasons for it are therefore to be sought in the activities and methods themselves, which make such widespread appeal.

### ACTIVITIES.

A glance through the handbook, *Scouting for Girls*, will show that the activities of the girl scouts center about the three interests—Home, Health, and Citizenship.

*Home.*—The program provides incentives for practicing woman's world-old arts by requiring an elementary proficiency in cooking, housekeeping, first aid, and the rules of healthful living for any girl scout passing beyond the Tenderfoot stage. Of the forty-odd subjects for which Proficiency Badges are given, more than one-fourth are in subjects directly related to the services of woman in the home, as mother, nurse, or home-keeper.

*Growth of Girl Scout membership, Jan. 1, 1918, to Jan. 1, 1921—Active registrations.*

January 1.	Officers.	Increase.	Scouts.	Increase.	Total.	Increase.
1918.....	1,314	.....	8,455	.....	9,769	.....
1919.....	3,823	2,509	36,847	28,392	40,670	30,901
1920.....	5,367	1,534	61,754	24,907	67,111	26,441
1921.....	6,839	1,482	83,025	21,271	89,864	22,753

Into this work, so often distasteful because solitary, is brought the sense of comradeship. This is effected partly by having much of

the actual training done in groups. Another element is the public recognition and rewarding of skill in this, woman's most elementary service to the world, usually taken for granted and ignored.

The spirit of play infused into the simplest and most repetitious of household tasks banishes drudgery. "Give us, oh, give us," says Carlyle, "the man who sings at his work. He will do more in the same time, he will do it better, he will persevere longer. Wondrous is the strength of cheerfulness; altogether past comprehension its power of endurance."

While the place of most production is to-day outside the home, much of the final preparation of goods, particularly food and clothing, is still done there. So that, while the homecrafts are far from being the vital necessities they once were, they are still needed.

Handicrafts of many sorts enter into the program of the girl scouts. In camping, girls must know how to set up tents, build lean-to's, and construct fireplaces. They must also know how to make knots of various sorts to use for bandages, tying parcels, hitching, etc. Among the productive occupations in which Proficiency Badges are awarded are cooking, house planning, beekeeping, dairying and general farming, gardening, millinery, weaving, and needlework.

While production has left the home, consumption is increasingly the business of the home-keeping woman. There are few purchases, even for men's own use, which women do not have a hand in selecting. Practically the entire burden of household buying in all departments falls on the woman, who is thus in a position to learn how to spend wisely and make the most of each dollar. In France this has long been recognized, and the women of the middle classes are the buying partners and bookkeepers in their husbands' business.

The girl-scout organization encourages thrifty habits and economy in buying in all of its activities. The scout troops are self-supporting, and are expected to earn most of their equipment by means of rallies, pageants, plays, as well as by individual effort. One of the 10 scout laws is that "A girl scout is thrifty."

*Health.*—The girl scout learns that "a cheerful scout, a clean scout, a helpful scout is a well scout. She is the only scout that really *is prepared*." So that health, physical and mental, is the keynote to the scout activities, which are calculated to develop the habit of health, rather than simply to give information about anatomy or physiology. Personal health is recognized by the badge of "Health Winner," given to the girl who for three months follows certain rules of living, such as eating only wholesome food, drinking plenty of water, going to bed early, exercising in the open air, and keeping clean, and who shows the result by improved posture, and by the absence of



constipation and colds. Outdoor sports, swimming, boating, and dancing are other health-producing activities.

Of all health-promoting activities, camping is the best, and this means all stages of life in the open, from the day's hike, with one meal out of doors, to the overnight or week-end hike, and finally the real, big camp, open all summer. Girl scouts learn how to dress for outdoor living, how to walk without fatigue, and how to provide themselves with food, warmth, and shelter, so that "roughing it" does not mean being uncomfortable.

During 1920, 50 large girl-scout camps were maintained in 16 States. These are self-supporting, and as they are open for 10 weeks as a rule and accommodate about 50 girls at a time, they give an opportunity to several thousand for the best sort of holiday.

The idea is to have enough camps to give every scout the experience. To promote this work national headquarters maintains a camping section and has published a book, "Campward Ho!" which gives full directions for organizing and running large, self-supporting camps for girls.

Community health habits are quite as important as the purely personal, and the older girl scout is expected to become a "health guardian," which means that she takes an intelligent interest in the things pertaining to public health, such as playgrounds, swimming pools, school lunches, the water and milk supplies, clean streets, the disposition of waste and garbage, the registration of births, and the prevention of infant mortality. She also learns how to help in times of emergency as first aid, in sickness as home nurse, and at any time as child nurse.

A scout whose mind is filled with interesting facts about birds and animals and trees, and who is busy playing games with her companions or in making useful and beautiful things and in rendering active service to her home and community, is apt to have a healthy mind without thinking much about it. And she has a little rule for the blue times, which is "to smile and sing under all difficulties."

*Citizenship.*—The basic organization of the girl scouts into the self-governing unit of a patrol is in itself an excellent means of political training. Patrols and troops conduct their own meetings, and the scouts learn the elements of parliamentary law. Working together in groups, they realize the necessity for democratic decisions. They also come to have community interests of an impersonal sort. This is perhaps the greatest single contribution of the scouts toward the training of girls for citizenship. Little boys play not only together but with men and boys of all ages. The interest of baseball is not confined to any one age. The rules of the game are the same for all, and the smallest boy's judgment on the skill of the players may

be as valid as that of the oldest "fan." Girls have had in the past no such common interests. Their games have been either solitary or in very small groups, in activities largely of a personal character. If women are to be effective in modern political society, they must have from earliest youth gregarious interests and occupations.

Among the scout activities that tend to develop this larger community sense are games, athletic sports of all kinds, including team work and competition between small, well-knit groups. Folk dancing and other forms of amusement, such as dramatics, pageants, and story-telling, serve a similar purpose because they all mean the possession of a resource not only for the right use of the girl's own leisure time, but for serving this need in the community.

### METHODS.

The activities of the girl scouts are, of course, not peculiar to this organization. Every one of them is provided for elsewhere, in schools, clubs, and societies. But the way in which they are combined and coordinated about certain basic principles is peculiar to the girl scouts.

In the first place all these activities have a common motive, which is preparation for a fuller life for the individual, not only in her personal but in her social relations. It is believed that both the habits formed and the concrete information acquired contribute to the girls being ready to meet intelligently most of the situations that are likely to arise in their later life. This concept is expressed in the girl scout's motto, "Be prepared."

The method of preparation followed is that found in nature, whereby young animals and birds *play* at doing all the things they will need to do well when they are grown and must feed and fend for themselves and their babies.

The heart of the girl scouts' laws is helpfulness, and so the scouts have a slogan: "Do a good turn daily." By following this in letter and spirit, helpfulness becomes second nature.

Because the girl scouts are citizens they know and respect the meaning of the flag, and one of the first things they learn is the pledge: "I pledge allegiance to my flag, and to the Republic for which it stands; one Nation indivisible, with liberty and justice for all."

Some observers have criticized the girl-scout organization because of its apparently military character. It is true that the girls wear a uniform of khaki and are grouped in patrols corresponding to the "fours" in the Army; that they salute and learn simple forms of drill and signaling. But the reason they do these is because the military organization happens to be the oldest form of organization in the world, and it works. It is the best way men have found

of getting a number of persons to work together. Following directions given to a group is quite a different matter from doing something alone, and most of us need special training in this. A group of eight has been found to work the best, because it is the largest number that can be handled by a person just beginning to be a leader, and, moreover, elementary qualities of leadership seem to exist in just about the proportion of one in eight. It is probably on this account that children take so kindly to the form, rather than because of any glamor of the army, though this must be admitted as a factor. In actual practice the drill and signaling take up a very small portion of the program and are nowhere followed as ends in themselves, but only as a means to an end.

*Uniform.*—The uniform is simple, durable, and allows freedom of action. It is of khaki because this has been found to be the best wearing fabric and color. It is not easily torn and does not readily soil. Wearing it gives the girls a sense of belonging to a larger group, such as it is hard to get in any other way. It keeps constantly before them the fact that they represent a community to whose laws they have voluntarily subscribed, and whose honor they uphold. It is well, too, to have an impersonal costume, if for no other reason than to counteract the tendency of girls to concentrate upon their personal appearance. To have a neat, simple, useful garb is a novel experience to many an overdressed doll who has been taught to measure all worth by extravagance of appearance.

### ORGANIZATION.

The outstanding feature of the girl-scout organization is its voluntary character. Among some 7,400 officers and leaders of girl scouts throughout the country in the fall of 1920, just 211 were "paid workers." This is about 3 per cent. The organization is actually a great volunteer school of citizenship in which the women of the country share with their younger sisters the results of their own experience in ideals and practical working knowledge of community living. Scout troops are organized either independently or in connection with public and private schools, churches, settlements, and other associations.

*Scouts of different ages.*—The original girl-scout program was designed mainly with the needs of the young adolescent in mind, and the age was fixed from 10 to 18 years. But the little girls wanted to come in, and so a separate division was made for them called the Brownies or Junior Scouts. Then the older girls and women wanted to join, and as time went on the original girl scouts grew up but not out of the scout movement, and programs are being made for Citizen Scouts who are 18 and over.

The three age groups seem to be natural ones, and each has its own methods and activities. The Brownies are formed into packs, under the leadership of a "Brown Owl," and play games and learn self-help and how to "lend a hand" to their families. The Citizen Scouts are expected to be self-directing and to take actual part in the life of the community and, either as wage earners or service givers, to pay their way.

But the large majority of all girl scouts belong to the middle group. More girls register at 13 than at any other age. This is interesting, as it marks the age of susceptibility to social ideas, shown also by the fact that it is the most common age of religious conversion. It is also the age of first crime. The distribution of ages at first registration is shown by the accompanying table.

The organization of the regular girl scouts is as follows:

*Ages of Girl Scouts at first registration.*

Ages.	Number.	Per 1,000.
6-9.....	440	5
10.....	6,059	73
11.....	9,130	110
12.....	14,857	179
13.....	16,434	198
14.....	14,276	172
15.....	10,707	129
16.....	5,810	70
17.....	3,486	42
Total 10-17.....	80,759	973
and over.....	1,826	22
Grand total.....	83,025	1,000

**Patrol.**—Eight girls form a Patrol, which is the working unit. One of them is elected patrol leader and has charge of the activities for as long as the patrol wishes. It is desirable to have each girl of a patrol serve as a leader at some time or other.

**Troop.**—One or more patrols constitute a Troop, which is the administrative unit recognized by the national organization. The Troop meets weekly and wherever possible at a place which "belongs" to it. When possible troops should meet outdoors. The troops are self-supporting and earn money for all equipment as well as for camps and hikes or special activities. Troops are registered with national headquarters and pay annual dues of 50 cents for each member. They also have their own local dues, generally 5 or 10 cents weekly.

**Captain.**—The troop is under the direction of a Captain, who must be at least 21 years of age and whose qualification as a leader of young girls is passed upon by national headquarters before she is commissioned.

*Lieutenant.*—A captain may have one or more Lieutenants, who must be at least 18 years of age, and whose commissions are likewise subject to control by national headquarters. Captains and lieutenants may be organized into associations in any given locality.

*Scout classes.*—There are three classes of girl scouts, the youngest being the "Tenderfoot," the name given by frontiersmen to the man from the city who is not hardened to the rough life out of doors. Even the Tenderfoot, however, has to know some things, including the promise, laws, slogan, and motto; how to salute and the respect due to the flag; how to make an American flag; and how to tie at least four kinds of useful knots. She must also have earned enough money to buy some part of her scout equipment.

The "Second-class" scout has been a tenderfoot for at least one month and can pass a test of distinctly greater difficulty. This includes, under home interests, the ability to make fires in stoves and out of doors, to cook a simple dish so that it will be palatable, to set a table for two courses, to make an ordinary and a hospital bed, and to sew.

Under health interests, she must know the main rules of healthful living, her own height and weight, and their relation to the standard; some simple first-aid points such as stopping bleeding, removing speck from eye, and bandaging a sprained ankle. She must also have a variety of facts at her command that will keep her alert and interested when out of doors, such as an acquaintance with animals, birds, and plants, the use of a compass, the alphabet of a signal code; and must demonstrate her ability to observe her surroundings accurately and quickly so as to report upon them.

Under topics preparing for citizenship she must know the history of the American flag, how to prevent fire, and what to do in case of fire, and must have served her troop, church, or community in some way and earned or saved money for some personal or troop equipment.

The highest rank is that of "First-class" scout, and is to be attained only by a young person of considerable accomplishment. She must be able to find her way about city or country without any of the usual aids, using only the compass and her developed judgment of distance and direction. She must also be able to communicate and receive messages by signaling. She must have shown proficiency in home nursing, first aid, and housekeeping, and, in addition, in either child care, personal health, laundering, cooking, needlework, or gardening. She must also be an all-round outdoors person, familiar with camping and able to lead in this, or be a good skater or a naturalist or be able to swim. Not only must she know all these different things, but she must have trained a tenderfoot, started a savings account, and served her community in some tangible way.

*Proficiency badges.*—After a girl scout has attained to first class there are still other worlds to conquer, as the badges she has earned on the way are only a few of the many to be worked toward. There are no less than 47 subjects in which a scout may achieve, and more are being added. Just to mention a few: A girl scout may be an artist, a beekeeper, a business woman, a craftsman, or a dancer; an electrician, a farmer, a flower finder, a horsewoman, an interpreter, a motorist; or a musician, a scribe, a swimmer, or a star gazer. The highest award given is the Golden Eaglet, which means the earning of 21 Merit Badges, of which 15 are in required subjects.

About 2,000 Merit Badges are earned a month. An analysis of the subjects shows that home nursing is the most popular, with 126 of each 1,000 earned. Laundress comes next with 97. First aid is next with 67. Needlewoman, child nurse, cook, pathfinder, health guardian, flower finder or zoologist, and home maker complete the first 10 most popular badges, with between 61 and 38 in each 1,000. The details are shown in the accompanying table.

*Local councils.*—Where troops are numerous it is usual to form a council composed of women and men representing all the best interests of the community: Parents, schools, religious denominations of all sorts, business, producers, women's clubs, and other social and philanthropic organizations. The council acts as the link between the girl scouts and the community. It has the same relation to the separate troops that the school board has to the schools—that is, it guides and decides upon policies and standards, interprets the scouts to the community and the community to the scouts. It does not do the executive or teaching work; that belongs to the directors, captains, lieutenants, and patrol leaders.

One function of the council is to interest public-spirited women and men, particularly artists and scientists, in girl-scout work and to get them to act as referees in awarding proficiency badges.

But wisdom is to be sought not only in large cities, where there are schools and museums, laboratories and studios. It is a poor community that does not have at least one wise old person—a farmer learned in nature's ways, a retired sailor stocked with sea lore, or a mother of men who knows life as perhaps no one else can. The wise council will know where to find these natural teachers and see that the scouts go to their schools.

Another prime function of the council is to raise funds and to make available such material equipment as camp sites, meeting places for the troops, etc. The captain should turn to the council for help in arranging and directing rallies, dances, fairs, pageants, and other devices for entertainment or securing money.

*National organization.*—The central governing body of the girl scouts is the national council, holding an annual convention of elected

delegates from all local groups. The national council works through an executive board, which meets monthly and conducts national headquarters in New York. The national director is in charge of headquarters and his direct responsibility for the administration of the whole organization, with the general divisions of field, business, publication, and education, each in charge of a secretary.

The field work is administered through 14 regions, each covering several States, and in charge of a regional director, who helps in the formation of local councils, the training of captains, and acts as general supervisor and consultant for all work in the district.

Under business comes the handling of mails, all the work of the shop where uniforms, insignia, books, badges, flags, and other equipment are sold, and the distribution of material ordered by mail.

There are three classes of publications: First, a monthly journal, *The American Girl*. Second, pamphlets and articles for general propaganda and publicity; these are handled by the editorial and publicity staffs, respectively. Third come publications of a technical nature, like the official handbooks for scouts and officers and outlines for training courses. These form part of the work of the education department, which has general oversight of all that pertains to training for leaders and the development of standards of work, including the important feature of coordinating the girl scouts with the other educational and social organizations. Camping also forms a part of the work of the education department.

During 1919 and 1920 the following publications were issued:

*Scouting for Girls*: The official handbook, 576 pages.

*Campward Ho*: A manual for girl-scout camps, 192 pages. Designed to cover the needs of those undertaking to organize and direct large, self-supporting camps for girls.

*The Blue Book of Rules for Girl Scout Captains*: All official rules and regulations, 32 pages.

*Training Courses*: (1) Outline for 32-period course, 17 pages. (2) Introductory course, 10 periods, 16 pages.

*Girl Scout Health Record*: Booklet form for recording points for health winner's badge.

*Miscellaneous Pamphlets*: Averaging 8 pages; 128,325 copies.

*Need for leaders*.—The growth in membership has been twice as rapid among the scouts as it has among the officers, as may be seen in the table already given. For every scout in 1918 we have 10 in 1921. For every officer in 1918 we have but 5 in 1921. For some time to come, therefore, the energy of the national officers must be directed toward the securing of properly trained leaders.

Colleges and higher schools are responding to a gratifying extent with the introduction of training courses in scouting for girls. Within two years courses have been given at the following colleges or uni-

versities: Adelphi, Boston, Bryn Mawr, Carnegie Institute, Cincinnati, Converse, Elmira, Hunter, Johns Hopkins, Missouri, New Rochelle, Northwestern, Pittsburg, Rochester Mechanics' Institute, Rochester University, Rockford, Simmons, Smith, Syracuse, Teachers' College, and Vassar. Also at the following higher schools: Battle Creek Normal School of Physical Education, Brooklyn Training School for Teachers, Chautauqua Institute, Chicago Normal School of Physical Education, Community Service Council of Marquette County, Mich., Manhattan Trade School for Girls, Milwaukee Normal, State Normal at Pittsburgh, Pa., Washington State Normal, and Western State Normal, Mich. The following schools and colleges are asking for courses: Chicago, Cornell, Detroit Normal, Kalamazoo, Michigan State Normal, Pennsylvania State, and Temple University.

Through cooperation with the deans of women in all parts of the country, and with the Intercollegiate Community Service Association, the college women are being influenced to take up scouting as an extra academic activity before graduation, and as a form of community service in their home towns later.

In addition to this work through existing educational bodies, many special courses are conducted in connection with the organizations of local councils.

The First National Training School for Girl Scout Officers has been conducted for four years, the last two years at Long Pond Camp in Plymouth, Mass. During the summer of 1920 special training camps were also held in connection with the councils of Greater New York, Cincinnati, and Harrisburg, with instruction given under the auspices of national headquarters. Five such camps are planned for 1921, located in Plymouth, Central Valley, in the Catskills, Lake Mohegan, N. Y., Philadelphia, and Cincinnati.

*Scouting in the public schools.*—Only that organization for young people can succeed which contributes directly to their chief business, which is getting an education. One reason the girl scout organization is received so cheerfully by school people is that it works into the school's own plans to a remarkable degree. Local councils have a larger representation from the public schools than from any other single agency. Scout leaders are drawn largely from the teaching force because teachers naturally have a better insight into the needs of young people than any other single group.

In a few places this interest has resulted in the gradual assimilation of scouting into the school system. At Fort Scott, Kans., this work has progressed furthest, with 90 per cent of all pupils of scout age, either boy or girl scouts. Supt. Ramsey made a most favorable report on this situation at the Cleveland meeting of the Department of Superintendence of the National Education Association in 1920. Among essential features he mentioned the following:



The boy scout executive and girl scout commissioner act as recreational directors and have charge of all the health education and vocational guidance.

A room is set aside in the Junior High School for all scout work which, however, is passed upon by a council, including persons outside of the school force.

Through glee clubs and choruses great interest in community singing and other music has been developed. The scout organization is helping to solve the dress problem for both boys and girls.

"To give the modern ideals of education would be to state the ideals of scouting." The modern teacher is increasingly well fitted to become a good scout leader.

Scouting may best be promoted through the public school, because that is the only organization that includes all the boys and girls. Moreover, because of close daily association, leaders of school troops can insure each scout being an active scout.

The school also benefits by scouting in a number of ways. Older pupils stay in school longer because of their interest in scouting than because of any other influence. "A year of work in scouting will do as much toward acquainting a teacher with the ideals of teaching as a year spent in any college or university of the country." Finally, scouting secures the interest, attention, and good will of the parents to the public schools.

*Girl Scout badges earned in 1919-20.*

Subject.	Number.	Per 1,000.	Subject.	Number.	Per 1,000.
1. Home nurse.....	2,852	128	18. Interpreter.....	578	25
2. Laundress.....	2,192	97	19. Swimmer.....	557	25
3. First aid.....	1,523	67	20. Business.....	424	19
4. Needlewoman.....	1,389	61	21. Cyclist.....	422	19
5. Child nurse.....	1,267	56	22. Gardener.....	383	17
6. Cook.....	991	44	23. Athlete.....	345	15
7. Pathfinder.....	990	44	24. Horsewoman.....	296	12
8. Health guardian.....	923	41	25. Bugler.....	254	11
9. Flower finder or zoologist.....	878	39	26. Scribe.....	216	10
10. Home maker.....	861	38	27. Telegrapher.....	192	8
11. Citizen.....	732	32	28. Motorist.....	190	8
12. Signaler.....	647	28	29. Dairy maid.....	190	8
13. Bird hunter.....	636	28	30. Farmer.....	187	8
14. Health winner.....	600	26	31. Sailor.....	130	6
15. Pioneer.....	595	26	32. Electrician.....	101	4
16. Artist.....	592	26			
17. Musician.....	580	26	Total.....	22,693	1,000

DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1921, No. 47

# EDUCATION FOR HIGHWAY ENGINEERING AND HIGHWAY TRANSPORT

REPORT OF THE REGIONAL CONFERENCE  
HELD AT UNIVERSITY OF PITTSBURGH  
FRIDAY, NOVEMBER 26, 1920

By

PYKE JOHNSON AND WALTON C. JOHN



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## LETTER OF TRANSMITTAL.

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DEPARTMENT OF THE INTERIOR,  
BUREAU OF EDUCATION,  
*Washington, D. C., October 16, 1919.*

SIR: As a result of the national conference on education for highway engineering and highway transport called in Washington by the Bureau of Education on May 15, 1920, a regional conference was called at the University of Pittsburgh on November 26, 1920, under the direction of the highway and highway transport education committee.

At this conference were discussed matters of importance to engineering educators, to economists, and to the officers and teachers of elementary and high schools, both urban and rural.

In order that the proceedings of this conference may be more widely known, I recommend the publication of this report.

Respectfully submitted.

JNO. J. TIGERT,  
*Commissioner.*

The SECRETARY OF THE INTERIOR.

## MEMBERS OF THE HIGHWAY AND HIGHWAY TRANSPORT EDUCATION COMMITTEE.

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*Director:* C. J. Tilden, Willard Building, Washington, D. C.

*Secretary:* W. C. John, United States Bureau of Education.

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# EDUCATION FOR HIGHWAY ENGINEERING AND HIGHWAY TRANSPORT.

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## . INTRODUCTION.

At the meeting of the first national conference on highway and highway-transport education called in Washington, D. C., on May 15, 1920, by the former Commissioner of Education, Dr. P. P. Claxton, it was voted by the conference committee on highway transport education:

This conference strongly recommends that universities and colleges offer courses in highway transport as their facilities will permit, and that at least 10 universities, located in different geographical sections of the United States, offer short-period advanced courses covering the various phases of highway transport, and 4-year courses in highway transport engineering or highway transport options in 4-year collegiate courses.

That the underlying principles of highways and highway transport, as well as the rules of the road, be taught in the grammar schools and high schools of the Nation.

Among the first institutions to respond to the call of the Washington conference was the University of Pittsburgh, which at that time was completing a special highway-transport laboratory, in which the work in both highway engineering and highway transport is carried on under the same roof.

Among those invited to participate in this conference were the members of the Educational Association of Western Pennsylvania and the Pittsburgh Teachers' Institute, and about 2,000 teachers were present from these organizations.

The purpose of this report is twofold: First, to stimulate greater interest of colleges and schools of engineering in the studies of education for highway engineering and highway transport; second, to assist teachers in the grammar grades and high schools in teaching safety as well as the relation of our highways to the economic development of the country; and, third, to encourage rural school development by means of improved methods of transportation of students.

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## RELATION OF HIGHWAY CONSTRUCTION TO CIVILIZATION.

By ROY D. CHAPIN, *Vice President National Automobile Chamber of Commerce.*

Our duty to civilization to-day is to encourage the construction and use of the best and largest possible number of roads and highways in this country, so that we may encourage the highest type of civilization attainable in America. We should make these routes useful and easy to travel, so that our people can move from one section to another easily and frequently, and so that every citizen may come to think not in terms of his own locality, but in terms of the Nation. As we develop highways we shall break down sectionalism.

There are 8,000,000 passenger motor cars in this country to-day, and figuring on a basis of a little less than 4 people per car, a little over 30,000,000 people ride over the highways to-day, so that highways touch close home to many people. The passenger-car mileage in automobiles is somewhere between 40 and 50 per cent higher than the passenger mileage of the railroad companies.



One point is preeminent in highway and highway-transport engineering, and that is the economic side of the matter. We are concerned not only with expenditure of vast sums of money on the highways but also with the vehicles that pass over the highways, and it is our duty to see that money appropriated for highways is wisely expended. The largest sum that is appropriated for public improvement is annually going to highways; it touches your pocketbook and the pocketbook of your family, and it is our duty to see that our boys understand better than we do what a good highway means and whether they are going to get a good highway when the various authorities build it.

In Detroit, for example, we are spending millions of dollars in trying to open arteries of traffic through the down-town centers. If we do not help others to get a true vision of this great development, the cost of millions to-day will be turned into tens of millions in a few years.

We must also show the effect of highways on the cost of housing. Living has been cheaper in Detroit during the last two or three years because a cheap car enables a man to own a home in the suburbs, where rent is cheaper.

Again, highway transport has created consolidated schools. The little one or two room schoolhouse was usually situated at a crossroads, and the attendance was variable, depending upon the weather and the roads. To-day many States are building consolidated schools, with motor busses bringing children in and taking them back.

We must have highway systems. These must be laid out intelligently, years ahead of time. Through routes in one State must connect with routes of other States; county routes must connect with other county routes; and township routes with other township routes, so that in the end we shall have a network of highways, not as we have now in almost every State of the Union, isolated pieces of highway and great stretches of bad road or a good road connecting with a bad road or stretches of bad road connecting good roads.

Next to the home, our biggest daily contact is with the highway. We follow it to work. It is impossible to escape it. The average citizen complains about his road, yet he little understands his relationship to it. It is the duty of education to interpret that relationship. The Nation has a great duty in the expenditure of millions of dollars for highway transport, and it will be much more difficult to get funds in the next 5 or 10 years to construct these roads if our educators do not interpret that relationship.

Then, as to traffic rules: The teachers in lower grades can teach the meaning of the rules. If there is any one thing that every man wants to do, it is to save life. A true inculcation of those rules into the minds of the children as they come to school is going to cut down very measurably the number of accidents on the streets. Traffic games and highway games in the schools will bring the children to a realization of what highway transport really means and their relation to it. In the high schools it seems wise to teach the economic value of the highways and highway transport. Every high-school student to-day is a potential voter. The students of to-day are going to vote to-morrow for many miles of highway construction at an expenditure of many millions of dollars. They should know the subject so that they can vote these sums intelligently. Colleges should train highway engineers as well as highway-transport engineers.

## DEVELOPMENT AND USE OF AMERICAN HIGHWAYS.

By S. B. McCORMICK, *Chancellor, University of Pittsburgh.*

It is interesting to consider the development of highways in America, and particularly in our Commonwealth of Pennsylvania. The people of Pennsylvania have watched the progress of highways, canals, and railroads. The canals

came after the highway between Philadelphia and Pittsburgh, and shortly after the canal the railroad came on, reaching Pittsburgh in 1852. About 1817 the pike was completed, and it was a busy highway from Philadelphia to Pittsburgh, the national pike also following its route to Washington. Now we have reached a period in our highway construction when it is to be looked upon not as a method of solving an immediate problem, but as the most prominent thing in America.

This, therefore, is a matter which demands the greatest study and the best intellect that we have, and it is a hopeful sign that you are going about it so as to ascertain just what traffic must be carried over these highways in order to find out just exactly what highways you have to construct. And after you determine what highways you have to construct, you may have to decide upon the other question, as to what kind of vehicles, in weight, and so forth, are to go over it.

It is a good thing, as Mr. Chapin has indicated, to enlist all kinds of people in the highway problem. It is a disgrace that so many people are injured and killed in developing this new instrument of transportation. This evil must be remedied. People do not realize that we have in this country just as many engineers as there are automobiles, running not upon a track like a locomotive, but upon highways. The drivers do not realize the tremendous power of the thing they are attempting to control.

In our schools and colleges, and everywhere that people can be brought together, this should be taught, because all of this is a part of one great plan; and when the time comes when from the Atlantic to the Pacific and from Canada to the Gulf we shall have good roads, roads that will be built in such a way as to endure, we shall bring about that which will guarantee more effectively than anything else the greatness and prosperity of our Nation.

Again, if you have highways and automobile trucks, you have a guaranty that no group of men can stand up before the American people and threaten to starve them unless their demands are granted. I am speaking altogether without any bias, for sometimes men have grievances which ought to be righted, and sometimes they have not, but whether they have or not the power of killing people by starvation is too much for any group of men, and we guarantee the safety and security of the Nation itself just in the measure in which we construct these highways.

This seems to me the most vitally important matter of a material kind before the American people to-day.

### HIGHWAY CONSTRUCTION IN PENNSYLVANIA.

By H. E. HILTS, *Principal Assistant Chief Engineer, State Highway Department.*

In Pennsylvania we have laid out, as you know, what we call a primary system of roads connecting the county seats. We do not take the individual sections of that primary system haphazard, but have laid out the full program year by year, so that when we get through spending this hundred to a hundred and twenty-five millions in four or five years we shall have a complete system of highways, selecting first the sections which are in most serious shape now. In order to accomplish this, we have to consider man power. We now have over 800 inspectors from the universities working for us on the various construction jobs. We must depend upon the universities to turn out year by year men who will be acceptable to us.

In the State highway department we have an automobile division, through which we collect our money. Those moneys are spent for maintenance. We have

a maintenance division, under a maintenance engineer and the commissioner, and each county has a representative in the person of a superintendent, who is in many cases a technically trained man—an engineer—and who has his caretakers on the main primary trunk lines. The construction division handles the expenditure of moneys raised by bond issues, or direct appropriations of the legislature, and of the various bond issues authorized by the counties, many of which look to us to superintend the construction of their highways as well as to check up their plans.

We have found it very important to establish a testing laboratory. We have now about 50 men in this work, 10 stationed in Pittsburgh, to see that the materials we get for our roads are suitable when delivered. Our inspectors on the projects do the rest.

We look upon each road or group as a separate problem. We send our corps in the field and endeavor to make relocations where they are justified. We estimate an increase of 100 or 200 per cent in motor traffic after the roadway is built. We endeavor to find the cost of added rise and fall, of added curvature, and where we would be justified in shortening the distance between terminal points, or in trying to find lower loops in the mountains, so that where we have costs of \$100,000 to \$125,000 a mile we can show why we are spending the money.

In other words, we talk from an engineering standpoint, dissect all the items of cost per mile of road, and satisfy ourselves whether those costs are justified. We have problems now in our large traffic centers in detouring trunk lines around the cities. We have done that with the railroads for years, and we are now going to do it with the highways. A great many people going from Washington to New York would be glad to obviate the necessity of going through Philadelphia, and we shall be compelled to construct roads probably sooner than we think to handle through traffic. To save three-quarters of an hour in a 4-hour trip is an item worth while.

I figured roughly one morning what our justifiable expenditures might be for a primary system. Calculating that 75 per cent of the traffic would go on 25 per cent of the roads, I found that \$35,000,000 a year was a very conservative estimate of saving on tires, on general repairs, and on oil and gas in automobiles. That is just a saving in dollars and cents for the operation of the vehicle over the road. It does not take into account any of those things that we look upon in an educational way. Thirty-five million dollars! Multiply that by 20, and you have the capitalization value.

Finally, I want to impress upon all of you that, in order to carry out this work properly, the educational situation must be handled so that the highway department can get a supply of trained men, with the ability to reach the top in a short time.

## FINANCIAL SIDE OF HIGHWAY CONSTRUCTION.

By A. G. BATCHELDER, *Executive Chairman, American Automobile Association.*

There is one thing which I think is fundamental in this subject, namely, the economic side of it. It is a big task to get the money to begin with.

There was a time when we secured funds for highway improvements from counties, but first there had to be a State appropriation in order to induce the county to move in the matter. When the motor vehicle came on the scene we found that the county unit was too small, and so we realized that we must use a larger unit of taxation, namely, the State, which really meant nothing more nor less than that the richest counties of the State, through the State

treasury, built roads across the poor counties which were not able to build roads for themselves.

Finally, the Federal Government contributed money, and now in the same way that the richer counties helped the poor counties in the State the rich States help the poor States. Our idea was that those Federal dollars would contribute to a State, and that the State should contribute to the counties, and especially the poor counties. Unfortunately, in carrying out the national plan many of the States have not functioned as they should. As a result we have not secured the highways we hoped for. Federal money should not be spent on roads unless they have some national characteristic.

## THE WASHINGTON CONFERENCE ON EDUCATION FOR HIGHWAY TRANSPORT.

By P. P. CLAXTON, *United States Commissioner of Education.*

Last spring there was held in Washington, at my request, a conference on education for highway engineering and for highway transport. That conference was attended by representative teachers of engineering in the colleges and universities, by highway commissioners, and others interested in the building and promotion of highways especially from the technical side, and those gentlemen who had to do with the making of automobiles, auto trucks, and auto transportation. The conference lasted two days, and out of it grew a strengthening of the convictions that we each had of the importance of this kind of education. I think we agreed that we had come to a new era in transportation, and that probably in the next 20 years we will spend for the building of highways—hard-surface highways—as much as or more than we ever spent in a like time for the building of railroads. That means that we shall spend 10, 15, or 20 billions of dollars for the building of highways; that those highways will be of a kind different from the highways of the past, and that they will require knowledge and application of technical principles.

The highways should be built by properly equipped engineers, who understand grading, making curves, and other things far different from what they have been in the past, to meet the new condition of heavy trucks running at high speed.

Next comes the proper preparation of the roadbed, so that it will not yield to rain or frost, or give way under the surface, because a road is a thing that has to be left out over night regardless of the weather. You can not take it in and shelter it and care for it, and you have to take care of the weight on it and the impact of rapidly moving freight of many tons. All the roads, probably, in existence at the time this conference was held were practically out of date. We found that the hard surface roads made for light-draft automobiles, before heavy trucks were used much, were giving way under the heavy work of the truck, so that we decided that for the balance of these thousands and scores of thousands of miles of highways to be built there will be necessary a different kind of training from that which the ordinary engineer has had.

It came out in the Washington conference that highways are built for certain kinds of transportation; certain kinds of men are going to go over them, not horses and buggies, but automobiles and trucks, both of which are new inventions, and probably neither one of them yet perfected, especially the truck. And for the making of auto trucks, tires, and machinery there is necessary another kind of engineering involving the principles of mechanics. It is a new thing, and so far we are applying old knowledge by the hit-and-miss method.

So we need schools and higher institutions of learning to furnish the means of training men for this kind of work, and for the organization of transport over the road. We decided it would be a good thing to appoint an executive committee, which has held a number of meetings, and which has subdivided itself. Some of the committees have held meetings, and there is some hope now that there will be a definite organization by which study of these problems can be promoted, if not as effectively as they should be by the United States Government, yet effectively coordinating the study of that knowledge that we now have.

## RELATION OF THE SCHOOLS TO THE HIGHWAY PROBLEM.

By THOMAS H. MACDONALD, *Chief United States Bureau of Public Roads.*

It is not expected that every man will become a builder of highways. Nor is it expected that every man will become an operator of motor vehicles. But there is not a citizen whose daily life will not be more and more influenced by the operation of motor vehicles over the public highways.

The tremendous importance which the highways in their relation to transportation have attained, the great problems which are necessarily connected with their building and maintenance, the operation of traffic over them, and the economic problems attendant upon these two, including the distribution of financial responsibility and the values to the communities which accrue from highway improvement, call for study and research. Particular attention is directed to the fact that these problems have come upon us within a very limited time. It has not been a slow development, giving us time to readjust ourselves. There has been little time for preparation, and we are now faced with the necessity of a broad educational program through which we must reach many classes if the objective of efficient and economical use and extension of our new transportation facilities is to be gained.

Upon our school system will to a large extent fall the responsibility of providing education of two very different kinds—the education of the public served and the education of the public servant. In this country little attention has been given to training young men for the public service. In fact, it is not uncommon for men to graduate from the universities without any adequate knowledge of the organization of the smaller units of the civil government in their own communities.

Many men will be needed in the highway improvement and transport program. If they obtain an appreciation of what real public service means, not only in the higher capacities but in the positions which control the affairs of the local communities, there must be implanted by the schools, beginning with the boys and girls in the lower grades, an interest in the development of the highways in their own communities. If they are taught who is responsible for their care, if their attention is called to the safe usage of the highways, they will have a much better background for higher training and their interest may be enlisted to the point that when it comes time to choose a college career they will take up a study of the technical branches which are necessary to an understanding of the science of highway building and highway transport.

A large number of technical graduates will need to be trained each year if the public is to be served by properly trained men. This is true not only in the Federal and State road programs, but in those of the cities, counties, and other governmental divisions.

It is estimated that the number of men who would be normally absorbed by the State and Federal highway departments alone each year would amount to

practically the entire number of graduates of civil engineering courses in the country. It is absolutely certain that only a small proportion of these men, under present conditions, will enter the public service because of the larger inducements elsewhere.

The second most important need of education in highway development is that of bringing to the citizenship through the agencies of the schools a better knowledge of the service demands which the highways must fulfill. It is perhaps too much to expect that the understanding will become general in a short period of the tremendous increases in the uses of the highways which have come in the past three years. It is conservatively estimated that in the agricultural communities the vehicle's mile use of the public roads has increased at least 500 per cent, while contiguous to the more thickly populated areas the increase is at least 1,000 per cent. The increased use is not alone in the number of vehicles but in the weights and speeds of the traffic units. Size and speed are the destroying agents, and our road systems which were built for very much smaller loads are showing, in many cases, failures.

There is too generally prevalent a feeling that the highway builders of the past have failed. Because some highways are not now satisfactorily carrying the tremendous traffic which has suddenly come upon them there is a tendency to criticize the men in the public service who were responsible for the construction of these roads. An impartial student of the records will undoubtedly find that if the roads were honestly and conscientiously built under the direction of a competent engineer, they are giving as good service as could possibly be expected under the changed conditions and that the construction planned by the engineer is much ahead of that which the public thought was necessary at the time.

The fact has been true of the highway engineer as of many other professions—the men who have pointed the way and who have accomplished the outstanding results have done so more often with the opposition of the public whom they serve than with their cooperation. Here is a prime function of the schools. There must be implanted in the minds of the boys and girls who are now in the lower grades a different attitude toward the governmental agencies which the public has set up to serve itself.

We need men trained in the proper expenditure of the great sums which will be appropriated for road improvement. We need men educated not only in the technical requirements of road building, but we need a larger citizenship which is more conversant with the way in which its own affairs are managed, so that it will intelligently select the men who can and will administer these offices in the public interests.

In conclusion, therefore, the teacher of to-day, who is concerned with the great questions so closely affecting the welfare and advancement of the public as a whole, will take the opportunity to implant in the minds of his students, whether these students are of the lower or higher grades, a knowledge of the service which the public needs from its young men, and will direct the attention of those who seem especially qualified to the opportunities offered for a splendid public career in the construction and maintenance of the public highways.

The need of education in highway development lies in two directions—the training of more men to carry on the actual work and the training generally of the public to the tremendous importance of the work which must be done and the economic value that will be gained by the public through the increased transportation facilities now made possible by the combination of the improved highway and the motor vehicle. These problems are educational. They belong to the teacher.

## GOOD ROADS ESSENTIAL TO GOOD RURAL SCHOOLS.

By DALLAS W. ARMSTRONG, *Superintendent of Schools, Venango County, Pa.*

It seems to me that the road problem and the rural school problem are identical. The consolidation of the rural schools in the way that they should be consolidated is practically impossible in many sections of Pennsylvania until we have some road improvement. The cost of these schools is a question before the people of the State, just as is the cost of the construction of the roads. The State must bring these schools together and give the boys and girls of the country and agricultural districts an education that will help them on the farm, and will give them some of the advantages that the boys and girls of the cities have. While these schools will cost more, they will give much more to the boys and girls of the community in proportion to the cost. Poor roads delay this program; in fact, they almost prevent it. For example, it is almost impossible to drive an auto bus during three or four months in the year in my county.

Good roads and the economy of good roads should be introduced as a subdivision of the study of thrift. We have boys and girls in a certain township in Venango County 10 or 12 miles away from school, and it is impossible to get them to school with the present roads. The township plans to build a high school this year; the boys and girls are demanding high-school privileges. If those boys and girls could see the opportunities that we could give to country children through consolidated schools, I am sure they would use their influence with their parents.

## THE SOCIAL VALUE OF HIGHWAYS.

By P. P. CLAXTON, *United States Commissioner of Education.*

I am going to speak first on the relation of the highway and good roads to education, particularly from the standpoint of the consolidated schools.

Originally our schools had a very small function to perform. Boys and girls in our pioneer homes had many educational agencies in connection with their daily tasks that the modern boy and girl do not have.

The home was a little kingdom to itself. The home manufactured the clothing and food. For the older boy the school did a very small part of the supplementary educational work. It merely gave the means and tools of education. There was opportunity to apply the principles which they thus got back into their home life. The modern school must give those experiences that the boys obtained in the primitive way in the primitive home. For that reason the one-teacher school in the country breaks down. In the one-room country school in Pennsylvania—and there are many thousands of them—one teacher teaches all subjects; she teaches all grades, and all ages from 6 to 18 or more. She is her own superintendent, her own health inspector, janitor, school nurse, besides being the representative of education and culture in the community. No person yet has been able enough to do the work as it should be done.

Hence the importance in this State of consolidated schools. In one county which we have recently studied, out of 179 school buildings, 147 are one-room schools, and a careful survey shows that if there were good roads in that county 29 schools would be sufficient. One-third of the number of teachers in one-room schools might actually be dismissed, and there would not be any more work on the remaining teachers.

Another reason for good roads in the community is that of the church. The country church largely breaks down, not because the country people are not religious, but because it is not easy to go to church. By bringing the people together to the country church by means of good roads, we might add much to

the cause of right living. I am sure that every good teacher would favor it. They preach a Heaven with roads paved with gold. We would like to have paved roads in the preparation for Heaven.

Let us take up the matter of community organization. A part of school work, in addition to the regular class work, is the bringing together of the grown-up people for acquaintance, friendship, instruction, discussion, and it may be for cooperation. Wherever a schoolhouse is built, especially a consolidated school, almost invariably there is a room provided for the adults to meet in, assembly halls with library, moving pictures, stereopticons, etc. But it is practically impossible to bring the people together in any large way unless there are better means of travel.

For that reason we are interested in the building of the highway as an educational project for the country. Modern education does not stop with the elementary school; it continues and becomes more important in the period of later adolescence and the earlier manhood and womanhood.

At this morning's conference it was said that teachers should be informed about highways. Country schools should teach travel and transport as well as other subjects, so that the pupil may understand his own life and his own work. If you leave him in a mist of darkness, without knowledge of his own community, his own people, and those near by, the chances are he will never be able to break through that mist and use the light you try to give him.

No doubt you will be asked to help in this State in making people understand the highway problem in its relationship to the transportation of their products and goods in their immediate community, because we are going to spend probably in the next 20 years 15 or 20 billion dollars in building highways and auto vehicles for serving communities in the way I have suggested—more than we ever spent in a lifetime on the railroads of the United States. Consequently, there will be opportunities for thousands of young men to work and serve their country in developing our highways and transport systems.

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Chancellor McCORMICK. The Whisky Rebellion in Western Pennsylvania a century and a quarter or more ago occurred because there were not highways by which to send the products of this western part of the country to the East. It was easier to transport whisky than the grain. To-day thousands are starving in China with food in other parts of China which can not be gotten to them. So in Russia, and in other parts of the world.

It is, therefore, important that all teachers attempt to understand the significance of highways in order that they may bring the subject home to their students.

Along with this matter of highway construction and highway transport is the matter of safety. Perhaps at this time in our history one of the things of which we ought to be ashamed is the number of lives that are paid as the price of improved methods of transportation. The safety-first idea is one that, along with this matter of highway construction, ought to engage the interest and have a part of the energy of every public-school teacher.

## METHODS OF TEACHING ACCIDENT PREVENTION IN DETROIT.

By HARRIET BEARD,

*Supervisor of Safety Education, Detroit Public Schools.*

There are a few things that I should like to recommend to aid in avoiding accidents to school children. There should be proper traffic regulations along all highways to safeguard both the driver and the pedestrian; and a rigid,



impartial enforcement of these regulations is very important, if we are to safeguard the lives of the people, especially the children.

For the prevention of these accidents, the only method that will be effective is education of grown people and of children. The education of children in the proper use and value of the highways is the thing most to be urged in these days. It is hard to educate grown people in new ways. We should begin with the children; teach them how to travel and how to live, especially in a big city.

In Detroit we have a very serious situation in regard to accidents. There are very many reasons for it; all traffic is on one level, which causes a great many accidents in a city of a million inhabitants; the streets converge to one center, which makes very heavy traffic downtown.

A check was made in 1918 at Michigan and Woodward Avenues, in the heart of the city, and from the hour of 7 in the morning to 7 in the evening, 27,983 automobiles passed that intersection. I don't know what the number is now, but I think at least 10 times as many.

There is a very tolerant attitude toward reckless driving that causes many accidents. During the 12 months ending August 1, 1919, when the Safety Department was organized, 1,097 accidents to the school children occurred, 96 being fatal. That appalling number led the board of education to insist that something be done; so that is how the safety-first movement was organized as an experiment.

There was really nothing to go by; we had no textbooks. We had only the records from the police department of the accidents to school children to study, and with that start we began to build up a safety department.

The police and fire departments lend all possible cooperation. They are anxious for us to help them and we are anxious to do so. The police send me numerous and full reports of accidents, giving the age, the circumstances, whether the accident took place at the intersection of the streets, and all details. I have found out a great many things that happen to children between the ages of 6 and 7, and to boys 12, 13, and 14, when they begin to use bicycles, and such data as that, and we have built up a course of study based on the conditions we have found to exist. We have inquired in the schools to see where the children's interests lie. We started with their drawings, and asked them to draw pictures of safety on the street. The results were very interesting. They made the drawing paper with the four corners representing the streets, and they would represent policemen and children trying to cross the streets. Some even put in an automobile or two, and one boy had a large round thing shown at the back of the automobile and when the teacher asked what that was he said that was an extra tire.

The most interesting thing was that all of the policemen were in uniform. Some of the children didn't know enough to put arms on the people crossing the street but they put uniforms on the policemen and put buttons on the coat and a badge. We saw that the children understood that there is such a thing as a uniform. We talked about public service; how the uniform differs from the clothing of other people and the meaning of the uniform and that it involved some responsibility, and it also involved respect for the uniform.

We tried, with traffic games, to show what their ideas and interests were with regard to traffic on the street. We started with the aisle in the front of the room. That was the main avenue, and all the narrow aisles were side streets. We drew marks where they should cross. Some of the children were policemen, others were pedestrians.

They are all learning what it means to cross the streets. The children who represent the policeman have a very different idea of the policeman than they would have had if they had not been policemen themselves.

A little boy named Thaddeus is policeman at one corner. They have a boy representing the speeder, who has an automobile 3 or 4 feet long, and he comes dashing across the stage and knocks down three or four children who have been jay-walking, and Thaddeus picks up these children and tells them how important it is to be careful, and to pay strict attention about their walking. He also gives some admonition to the speeder, which, I think, is very necessary.

We have tried the Boy Scouts. I visited a school this week where they have 20 Boy Scouts, and they take turns, one scout one week and one another week. They stand at the corner nearest the school, and take the children across the street, and at times hold up the traffic.

The teachers also find that the introduction of work of this kind is not a burden, and I think that is something we must consider, because nowadays teachers have so many burdens on them that I think we should be very, very careful in what we ask the teachers to undertake.

The children are organizing safety clubs and wear safety buttons that the police department furnishes. We have had competition between the schools in keeping down the number of accidents, and competition between public and parochial schools as to how many children from each are injured, and each tries to reduce the number. We try to keep in contact with them. If they have ideas, we like to have them.

We have issued a small book that has suggestions as to the work and the methods that can be used. The teachers don't take that as an additional subject, but give it to children through their drawing or through their dramatization or their English; even in their arithmetic they learn about the city departments, because this work has developed not only in accident study, but in fire, first aid in emergencies, and the first principles of civics.

We also have a course of training for teachers in the Teachers' College in accident prevention, and some teachers are interested enough to want to specialize in it.

If the police department have some idea that they wish to give to the children, if there are special dangers that arise, we try to incorporate that in the course for the children. For instance, a few years ago, at the time when the days were getting shorter, the children were running out on the streets in the dusk. The drivers could not see them, and, consequently, many accidents occurred. The secretary of the school board asked, "Isn't there some way you can impress on the children that it is not safe to run out unless they carry a newspaper or something white that will show when they cross the streets in the dusk?" We gave them some lessons in protective coloring, showing how birds in nature have protective coloring, and in that way a great many of them got the idea, and when they went out in the dusk, going to the grocery just before supper, they would carry a newspaper, or wear something light, so that they could be more easily seen in the darkness.

The Boy Scouts help us very much in our work and we help them. We help them to demonstrate the principles of first aid in their Boy Scout Manual, and, of course, the children feel if the Boy Scouts can teach these things, they want to join, and the girls want to join the Fireside Group. We are planning to have Boy Scouts for every school. If we can have the troops meet right in the school we feel it is going to be of great help to the school.

We have had community evenings, where the parents and the department and the board of education cooperate. We furnish some feature that the children have been doing in the school. It is always interesting to the parents to see these things. We have one or two community features, dramatization

or music, or whatever is easiest to give, and then have a safety talk, and a moving picture showing how accidents occur, and another moving picture to attract the people. There is no admission charge and the thing is very satisfactory. It was quite interesting to see how the children would bring the parents who had never been in the school before. In that way we have the parents see what a splendid work the children are doing, and they have their children at school every day on time.

You may be interested in the results of one year of our work, which was largely experimental. During the year before we had 96 school children killed, and many more younger ones; the 96 were children from 6 to 18. During the 12 months that ended with the 1st of September, 1920, after this work was instituted, we had 48, which was a saving of 50 per cent of those lives, and, instead of a total of 1,097 accidents to the school children of the city, we had 589. That is 589 too many, but still it is a reduction of almost 50 per cent the first year. So we feel in Detroit that education along these lines is well worth while.

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### REPORT OF THE HIGHWAY TRANSPORT COMMITTEE.

1. This committee strongly recommends that universities and colleges offer a required 3-hour course throughout one year in highway transport and highway engineering as a part of their civil engineering courses, and that not more than 10 universities located in different geographical sections of the United States offer short-period advanced courses covering the various phases of highway engineering and highway transport, and a 4-year course in highway transport engineering or highway transport and highway engineering option in 4-year collegiate or technical course.

2. It is the opinion of this committee that the textbooks in high-school economics should be so revised as to treat the subject of transportation in a broader and more complete manner and to include more recent developments in highway and waterway transportation as a means of assisting other modes of transportation now in use.

3. The committee recommends very strongly the revision in textbooks of civics, particularly as they refer to highway transport, and further recommends that those in authority in the secondary and grade schools make strenuous endeavors to satisfy the need in all phases of highway transport as it involves both safety and economics.

4. The committee suggests that the time is now opportune for the Bureau of Education in Washington to consider stimulating interest in the field of highway engineering and highway transport and to consider that the high-school graduate should be helped in his selection of a vocation in life.

H. E. HILTS, *Chairman.*

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### REPORT OF THE VOCATIONAL EDUCATION COMMITTEE.

This committee discusses:

- (1) The need of vocational training for—
  - (a) Foremen, road supervisors.
  - (b) Chauffeurs and auto mechanics.
- (2) Where and how the vocational training required for these positions may best be given.

*Training for foremen and road supervisors.*—The discussion tended to show that at present, to a very large degree, vocational competence in the positions of foremen and road supervisors is reached as a result of actual experience on

the job. The conference, while recognizing the value of this experience, concluded that it could be made to yield more immediate benefits as an occupational training factor if supplemented by organized courses of instruction designed to extend and improve the knowledge and skill of those undergoing such experience. It was the consensus of opinion that, under present Federal and State legislation, trade extension training for persons already employed in these positions might be conducted at public expense by public-school systems through the organization of dull-season and evening classes. It appeared to be the general belief, however, that the questions of what agency should undertake to provide the necessary training, and of what the character and content of the training ought to be, should be determined only after a very careful study and investigation of the requirements for successful service in these positions.

*Training for chauffeurs and auto mechanics.*—The discussion brought out the fact that there is a great and increasing need of training for chauffeurs and auto mechanics. The trend of the discussion indicated that this need is being met only to a very slight extent at present through the agency of public schools. It was finally agreed that the problem presented by this situation could best be met at present by the following methods:

- (1) By having employers assume responsibility for the initial training of chauffeurs.
- (2) By establishment and maintenance of one or both of the following types of courses in public-school systems, depending upon the local conditions to be met—
  - (a) Day courses, preparing specifically for the occupation of auto mechanics and open to persons 14 years of age or older capable of profiting by the instruction.
  - (b) Short-unit evening courses, designed to extend the trade knowledge and skill of persons already employed as chauffeurs or auto mechanics.

*Conclusions and recommendations.*—The discussion revealed that there is a general lack of understanding on the part of representatives of industry in reference to the possible types of training service that may be organized and maintained by public-school systems under existing laws. There was also revealed a corresponding lack of information on the part of public-school authorities in regard to the kinds and specific requirements of positions for which representatives of industry consider it necessary and desirable to provide organized training. The conference concluded from these disclosures that there is need of a more direct and effective means of presenting the required information to industry and to the public schools and that representatives of industry and public-school administrators should work in close cooperation to the end that appropriate and economic plans of training for the positions under consideration may be developed.

It was recommended that the general committee on highway and highway transport education set aside an adequate sum of money to be spent in investigating the requirements of positions for which training is needed, with a view to developing appropriate courses of instruction therefor. It was further recommended that this work be intrusted to competent educators, in cooperation with recognized experts in the occupations for which training is to be provided.

A. S. HURRELL, *Chairman.*

## REPORT OF THE COMMITTEE ON EDUCATION FOR SAFETY.

1. That the Department of Education of Pennsylvania be asked to form more extended courses for the schools under the subject of safety-first rules, and especially to require a more strict enforcement of existing rules than at present;

provided that if the laws of the State do not compel the teaching of these safety-first rules that the next legislature be asked to enact legislation giving authority to enforce them.

2. That the State superintendent of schools require reports of *all accidents* to school children, whether on streets or elsewhere, and that accident statistics be kept as a part of State school records, and that the tabulated reports be published.

3. That we recommend the enactment of such legislation as will permit the regulation of pedestrian traffic by vesting a greater degree of responsibility of conduct in the pedestrian. We further recommend that a State law be enacted empowering municipalities to adopt ordinances requiring in congested districts and at other dangerous points that crossings be designated for foot passengers and prohibiting the crossing at other than the crossings designated.

HARRIET BEARD, *Chairman.*



DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1921, No. 48

# EDUCATIONAL DIRECTORY

## 1921-1922



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1922



DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

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# EDUCATIONAL DIRECTORY, 1921-22.

## I.—UNITED STATES BUREAU OF EDUCATION.

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Nora M. Ruggles.

Alden D. Collins.

*Home Education Section—*

Ellen C. Lombard, director.

*Alaska Division:*

*Washington (D. C.) office—*

William Hamilton, acting chief.

David E. Thomas, accountant.

Marie C. Kenealy.

*Seattle (Wash.) office—*

William T. Lopp, superintendent of education of natives of Alaska.

Julius C. Helwig, secretary to the superintendent of education of natives of Alaska.

Harry C. Sinclair, supply agent.

Chauncey C. Bestor, special disbursing agent.

James O. Williams.

Mrs. Ivy M. Knox.

Mark Taylor.

*Division of City School Systems:*

Walter S. Deffenbaugh, specialist in city school systems.

Mrs. Alice B. Fernandez, specialist in industrial and economic relations in education.

Julia Wade Abbot, specialist in kindergarten education.

Nina C. Vandewalker, specialist in kindergarten education.

Florence C. Fox, specialist in educational systems.

Mrs. Florence K. Evans.

Bertha Y. Hebb.

Mabel B. Thawley.

*Division of Higher Education:*

George F. Zook, specialist in higher education.  
 Walton C. John, specialist in rural and technical education.  
 Lloyd E. Blanch, specialist in charge of land-grant college statistics.  
 Ella B. Ratcliffe, clerk.  
 Margaret J. S. Carr.

*Division of Rural Education:*

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 John C. Muerman, specialist in rural education.  
 Edith A. Lathrop, specialist in rural education.  
 James F. Abel, assistant in rural education.  
 Alex. Summers, collector and compiler of statistics.  
 Florence E. Reynolds.

*Service Division:**Industrial Education Section—*

William T. Bawden, specialist in industrial education.  
 Mrs. Henrietta W. Calvin, specialist in home economics.

*Section of Foreign Educational Systems—*

George W. A. Luckey, specialist in foreign educational systems.  
 Peter H. Pearson, translator.  
 Theresa Bach, translator.

*School Hygiene Section—*

Willard S. Small, specialist in school hygiene and sanitation.  
 Julia B. Tappan.  
 Fletcher B. Dresslar, special agent, George Peabody College for Teachers, Nashville, Tenn.  
 Arthur Macdonald.

*Commercial Education Section—*

Glen Levin Swiggett, specialist in commercial education.

*School Legislation Section—*

William R. Hood, specialist in school legislation.

*Special Collaborators in Field Service:**1. Representatives of State Departments of Education—*

J. W. Abercrombie, State superintendent of public instruction, Montgomery, Ala.  
 William Arthur Bass, chief clerk, State department of education, Nashville, Tenn.  
 Ernest W. Butterfield, State superintendent of public instruction, Concord, N. H.  
 Charles Carroll, State department of public instruction, Providence, R. I.  
 Julius A. Churchill, State superintendent of public instruction, Salem, Oreg.  
 Ewing N. Collette, State department of education, Oklahoma City, Okla.  
 Leo M. Favrot, assistant rural-school supervisor, State department of education, Baton Rouge, La.  
 Lester D. Henderson, commissioner of education, Juneau, Alaska.  
 Ida M. Huston, chief clerk, State department of public instruction, Lansing, Mich.  
 Elvin J. Norton, deputy State superintendent of public instruction, Salt Lake City, Utah.  
 W. H. Pittman, chief clerk, State department of public instruction, Raleigh, N. C.  
 Mrs. Josephine C. Preston, State superintendent of public instruction, Olympia, Wash.  
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 Payson Smith, commissioner of education, Boston, Mass.  
 John E. Swearingen, State superintendent of public instruction, Columbia, S. C.  
 Augustus O. Thomas, State superintendent of public instruction, Augusta, Me.  
 May Trumper, State superintendent of public instruction, Helena, Mont.  
 Will C. Wood, State superintendent of public instruction, Sacramento, Calif.

*2. Higher Education—*

Charles H. Handschin, professor of modern languages, Miami University, Oxford, Ohio.

*3. City School Systems—*

Clarence D. Kingsley, supervisor of secondary education, Statehouse, Boston, Mass.

*4. Rural Education—*

Frederick W. Roman, professor of economics, Syracuse University, Syracuse, N. Y.

*5. Commercial Education—*

D. D. Carroll, dean, school of commerce, University of North Carolina, Chapel Hill, N. C.  
 Benjamin O. Duggan, State high-school inspector, Nashville, Tenn.  
 Frederick Juchhoff, University of Virginia, Charlottesville, Va.  
 Charles J. Koch, Baltimore, Md.  
 Steven I. Miller, dean, school of commerce, University of Washington, Seattle, Wash.  
 Oscar E. Olin, professor of economics, Municipal University, Akron, Ohio.  
 George E. Olson, dean, school of business administration, University of South Carolina, Columbia, S. C.  
 Frederick B. Robinson, College of the City of New York, New York, N. Y.  
 Tollef B. Thompson, department of economics, University of Maryland, College Park, Md.  
 J. M. Watters, dean, school of commerce, Georgia School of Technology, Atlanta, Ga.

*6. Research—*

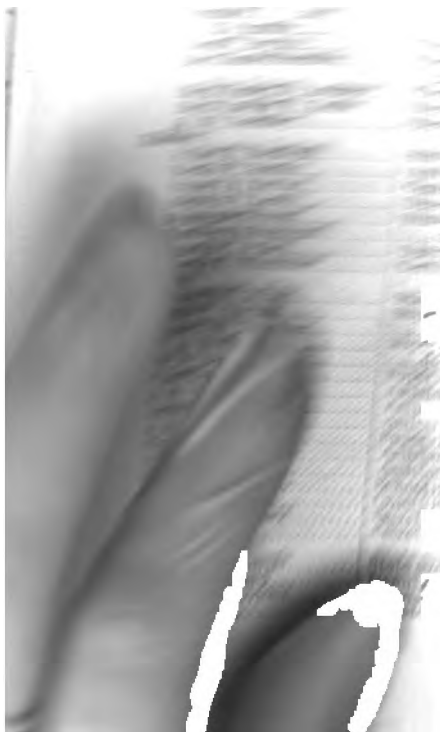
George E. Schlafer, University of Indiana, Bloomington, Ind.  
 Thomas Whittemore, Cambridge, Mass.

*7. Home Education—*

Walton S. Bittner, associate director, extension division, Indiana University, Bloomington, Ind.  
 O. E. Klingaman, director, extension division, University of Iowa, Iowa City, Iowa.  
 Frank C. Lockwood, director, extension division, University of Arizona, Tucson, Ariz.  
 Charles G. Maphis, professor of secondary education, University of Virginia, Charlottesville, Va.  
 F. F. Nalder, State College of Washington, Pullman, Wash.  
 Alva O. Neal, University of Arizona, Tucson, Ariz.  
 Wellington Patrick, director, extension division, University of Kentucky, Lexington, Ky.  
 Louis E. Reber, director, university extension division, University of Wisconsin, Madison, Wis.  
 F. W. Reynolds, director, educational extension, University of Utah, Salt Lake City, Utah.  
 Reed Smith, director, extension department, University of South Carolina, Columbia, S. C.  
 Chester D. Snell, extension division, University of North Carolina, Chapel Hill, N. C.  
 John C. Tjaden, director, extension division, University of South Dakota, Vermillion, S. Dak.  
 Samuel C. Wilson, Sam Houston normal institute, Huntsville, Tex.  
 Albert H. Yoder, director, extension division, University of North Dakota, Grand Forks, N. Dak.

II.—PRINCIPAL STATE SCHOOL OFFICERS.

States and officers.	Official designation.	Address.
<b>Alabama:</b>		
John W. Abercrombie.....	State superintendent of education.....	Montgomery.
James N. Gunnels.....	Chief clerk.....	Do.
R. E. Tidwell.....	Assistant superintendent and director of teacher training.....	Do.
R. E. Ledbetter.....	Rural school agent.....	Do.
J. S. Lambert.....	do.....	Do.
P. W. Hodges.....	Certification and placement secretary.....	Do.
Donylu Belser.....	Assistant certification secretary.....	Do.
W. L. Spencer.....	Supervisor of secondary education.....	Do.
Cassie L. Spencer.....	Supervisor of elementary education.....	Do.
J. B. Hobdy.....	Director of vocational education.....	Do.
R. E. Cammack.....	Supervisor of vocational agriculture.....	Do.
B. E. Harris.....	Supervisor of vocational trades and industries.....	Do.
Ivot Spafford.....	Supervisor of vocational home economics.....	Do.
Clara Pitts.....	Reading circle secretary.....	Do.
Sarah Luther.....	Field secretary of exceptional education and parent-teacher associations.....	Do.
O. C. Bird.....	Director of physical and health education.....	Do.
Mary Woodruff.....	Director of school and community betterment.....	Do.
<b>Alaska:</b>		
Lester D. Henderson.....	Commissioner of education.....	Juneau.
<b>Arizona:</b>		
Elsie Toles.....	State superintendent of public instruction and State director of vocational education.....	Phoenix.
Helen S. Benedict.....	Assistant superintendent.....	Do.
M. L. Doner.....	Assistant State director of vocational education.....	Do.
Homer Davis.....	Director of bureau of research.....	Do.
<b>Arkansas:</b>		
J. L. Bond.....	State superintendent of public instruction.....	Little Rock.
N. M. Whaley.....	Deputy superintendent.....	Do.
W. R. Edwards.....	Assistant deputy superintendent.....	Do.
A. B. Hill.....	Supervisor of secondary schools.....	Do.
J. R. Grant.....	State agent of rural schools.....	Do.
W. E. Holbrook.....	do.....	Do.
J. A. Presson.....	State agent of rural schools for Negroes.....	Do.
<b>California:</b>		
Will C. Wood.....	Superintendent of public instruction and ex officio director of education.....	Sacramento.
Sam H. Cohn.....	Assistant superintendent.....	Do.
Albert C. Olney.....	Commissioner of secondary schools.....	Do.
Mrs. Margaret S. McNaught.....	Commissioner of elementary schools.....	Do.
Edwin R. Snyder.....	Commissioner of industrial and vocational education.....	Do.
Job Wood, Jr.....	Deputy superintendent.....	Do.
A. R. Heron.....	Deputy director of education.....	Do.
Maud I. Murchie.....	Supervisor of teacher-training courses in home economics.....	Do.
Jeremiah B. Lillard.....	Supervisor of agricultural instruction.....	Do.
John C. Beswick.....	Supervisor of trade and industrial instruction.....	Do.
Herbert B. Stolz.....	Supervisor of physical education.....	Do.
Winifred Van Hagen.....	Assistant supervisor of physical education.....	Do.
W. S. Dyas.....	Head of textbook department.....	Do.
Edna M. Stangland.....	Secretary.....	Do.
Georgiana Carden.....	Supervisor of school attendance.....	Do.
Ethel Richardson.....	Assistant superintendent in charge of Americanization.....	Do.
<b>Canal Zone:</b>		
A. R. Lang.....	Superintendent of schools.....	Balboa Heights.
F. X. Karrer.....	Assistant superintendent.....	Do.
Alice Alexander.....	do.....	Do.
Helen L. Currier.....	Supervisor of music.....	Do.
Frances E. B. Smith.....	Supervisor of penmanship.....	Do.
<b>Colorado:</b>		
Katherine L. Craig.....	State superintendent of public instruction.....	Denver.
Mrs. Nellie D. Newton.....	Deputy State superintendent.....	Do.
Earl G. Morand.....	State rural school supervisor.....	Do.
Mrs. Magdalena Roff.....	Statistician.....	Do.
<b>Connecticut:</b>		
A. B. Meredith.....	Commissioner of education.....	Hartford.
F. J. Trinder.....	Director of vocational education.....	Do.
James B. Davis.....	Supervisor of secondary education.....	Do.
C. B. Gentry.....	Supervisor of agricultural education (Smith-Hughes).....	Storrs.
N. Searle Light.....	Director of supervision.....	Hartford.
W. S. Dakin.....	Inspector.....	West Hartford.
L. T. Garrison.....	do.....	Williamantic.
E. W. Ireland.....	do.....	Hartford.
F. E. Harrington.....	Statistics and research.....	Do.
A. D. Simpson.....	School surveys.....	Do.
R. C. Deming.....	Director of Americanization.....	New Haven.
Geo. R. Sturges.....	Director of attendance and employment work.....	Woodbury.
S. P. Willard.....	Financial agent.....	Colchester.
A. J. Wright.....	Chief clerk.....	Hartford.



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II.—PRINCIPAL STATE SCHOOL OFFICERS—Continued.

States and officers.	Official designation.	Address.
<b>Indiana—Continued.</b>		
H. G. McComb.....	Assistant director of vocational education.....	Indianapolis.
L. B. Job.....	State supervisor of vocational rehabilitation.....	Do.
Z. M. Smith.....	Supervisor of agricultural education.....	Do.
Bertha Latta.....	Assistant in vocational education.....	Do.
Oscar H. Williams.....	Supervisor of teacher-training.....	Do.
E. B. Wetherow.....	State school inspector.....	Do.
S. Leroy Scoles.....	Assistant State school inspector.....	Do.
Estes Duncan.....	Executive secretary of State teachers' retirement fund board.	Do.
<b>Iowa:</b>		
P. E. McClenahan.....	Superintendent of public instruction.....	Des Moines.
A. L. Heminger.....	Deputy superintendent.....	Do.
H. C. Hollingsworth.....	Chief clerk.....	Do.
M. R. Fayram.....	Inspector of normal training in high schools.....	Do.
George A. Brown.....	Inspector of rural and consolidated schools.....	Do.
F. A. Welch.....	Inspector of graded and high schools.....	Do.
W. H. Bender.....	Director of vocational education.....	Do.
Harvey L. Freeland.....	Supervisor of trades and industries.....	Do.
Louis Wermelskirchen.....	Assistant supervisor of agriculture.....	Do.
Alma Merwin.....	Director of home economics.....	Do.
Willis W. Grant.....	Supervisor of industrial rehabilitation.....	Do.
<b>Kansas:</b>		
Lorraine E. Wooster.....	State superintendent of public instruction.....	Topeka.
Geo. A. Allen.....	Assistant superintendent.....	Do.
B. E. Lewis.....	High-school supervisor.....	Do.
Claire W. Mitchell.....	do.....	Do.
May Cain.....	Rural-school supervisor.....	Do.
Chas E. Baysinger.....	Chief clerk.....	Do.
Euna M. Arrasmith.....	Secretary State board of education.....	Do.
<b>Kentucky:</b>		
George W. Colvin.....	State superintendent of public instruction.....	Frankfort.
L. N. Taylor.....	Chief clerk.....	Do.
R. P. Green.....	State supervisor of high schools.....	Do.
J. V. Chapman.....	State supervisor of rural schools.....	Do.
F. C. Button.....	do.....	Do.
P. H. Hopkins.....	do.....	Do.
J. W. Carr.....	Director of physical training.....	Do.
Mrs. Abner Harris.....	State organizer parent-teacher association.....	Do.
G. Ivan Barnes.....	Director of vocational and supervisor of agricultural education.....	Do.
<b>Louisiana:</b>		
T. H. Harris.....	State superintendent of education.....	Baton Rouge.
C. A. Ives.....	State high-school inspector.....	Do.
John M. Foote.....	State rural-school supervisor.....	Do.
A. M. Hopper.....	Assistant rural school inspector.....	Do.
John E. Cox.....	do.....	Do.
C. F. Trudeau.....	Assistant State high-school inspector.....	Do.
Leo M. Favrot.....	State agent of rural schools for Negroes.....	Do.
A. C. Lewis.....	Assistant State agent of rural schools for Negroes.....	Do.
P. L. Gilbeau.....	State supervisor of agricultural schools.....	Do.
John R. Conniff.....	Chairman State teachers' examining committee and institute conductor.....	Do.
Cleora C. Helbing.....	State supervisor of home economics.....	Do.
Clyde Mobley.....	Assistant supervisor of home economics.....	Do.
John E. Lombard.....	State director of physical education.....	Do.
J. G. Lee, Jr.....	State director of agricultural teacher-training.....	Do.
W. H. Tipton.....	Chief clerk.....	Do.
<b>Maine:</b>		
Augustus O. Thomas.....	State superintendent of public schools.....	Augusta.
Josiah W. Taylor.....	Deputy superintendent.....	Do.
H. A. Allan.....	Agent for secondary education.....	Do.
Florence M. Hale.....	Agent for rural education.....	Do.
A. W. Gordon.....	General agent for schools in unorganized territory.....	Do.
Nellie W. Jordan.....	Director of physical education.....	Do.
E. K. Jenkins.....	Director of vocational education.....	Do.
R. E. Haines.....	Supervisor of trades and industries.....	Gorham.
Herbert S. Hill.....	Supervisor of agriculture.....	Orono.
Bernardine Cooney.....	Supervisor of household arts.....	Farmington.
Leah J. Abrahamson.....	Supervisor of Americanization.....	Portland.
.....	Supervisor of industrial rehabilitation.....	Do.
.....	Chief clerk.....	Augusta.
<b>Maryland:</b>		
Albert S. Cook.....	State superintendent of schools.....	Baltimore.
George H. Reavis.....	Assistant State superintendent.....	Do.
S. M. North.....	Supervisor of high schools.....	Do.
E. C. Fontaine.....	do.....	Do.
Wm. J. Holloway.....	Supervisor of rural schools.....	Do.
J. W. Huffington.....	Supervisor of colored schools.....	Do.
Roy Dimmitt.....	Supervisor of vocational education.....	Do.
William Burdick.....	Supervisor of physical education.....	Do.



## II.—PRINCIPAL STATE SCHOOL OFFICERS—Continued.

States and officers.	Official designation.	Address.
<b>Maryland—Continued.</b>		
T. L. Gibson.....	Supervisor of music.....	Baltimore.
I. Jewell Simpson.....	Bureau of Educational Measurements.....	Do.
Bessie C. Stern.....	Statistician.....	Do.
T. A. Murray, Jr.....	Chief clerk and auditor.....	Do.
Marie S. Bateman.....	Credential clerk.....	Do.
<b>Massachusetts:</b>		
Payson Smith.....	Commissioner of education.....	Boston.
Frank W. Wright.....	Director division of elementary and secondary education and normal schools.....	Do.
Clarence D. Kingsley.....	Supervisor of secondary education.....	Do.
Burr F. Jones.....	Supervisor of elementary education.....	Do.
Robert I. Bramhall.....	Agent for research and statistics.....	Do.
Harry E. Gardner.....	Agent for registration of teachers.....	Do.
Royal B. Farnum.....	Director of art education.....	Do.
Robert O. Small.....	Director division of vocational education.....	Do.
Rufus W. Stimson.....	Agent for agricultural schools and departments.....	Do.
Arthur S. Allen.....	Agent for industrial schools for men and boys.....	Do.
Edith B. Hunt.....	Agent for industrial schools for women and girls and household arts schools and departments.....	Do.
Caroline E. Nourse.....	Assistant agent for household arts schools and departments.....	Do.
Wm. D. Parkinson.....	Agent for vocational teacher-training.....	Do.
Franklin E. Heald.....	Agent for teacher-training for agricultural schools.....	Amherst.
N. Norcross Stratton.....	Agent for teacher-training for industrial schools.....	Boston.
Anna A. Kloss.....	Agent for teacher-training for household arts schools.....	Do.
Edna M. Sturtevant.....	Assistant agent for teacher-training for household arts schools.....	Frammingham.
Carl E. Herrick.....	Agent for administration, vocational schools.....	Boston.
Herbert A. Dallas.....	Supervisor of industrial rehabilitation.....	Do.
Mary E. P. Lowney.....	Agent for industrial rehabilitation.....	Do.
James A. Moyer.....	Director division of university extension.....	Do.
Dennis A. Dooley.....	Agent for class organization, university extension.....	Do.
Charles W. Hobbs.....	Editor and supervisor of instruction, university extension.....	Do.
John J. Mahoney.....	Supervisor of Americanization, university extension.....	Do.
Charles M. Herlihy.....	Agent for Americanization.....	Do.
Mary L. Guxton.....	Assistant agent for Americanization.....	Do.
Mrs. Nathaniel Thayer.....	Director division of immigration and Americanization.....	Do.
Charles B. Hayes.....	Director division of the blind.....	Do.
Charles F. Belden.....	Director division of public libraries.....	Do.
Clayton L. Lent.....	Secretary teachers' retirement board.....	Do.
George H. Varney.....	Business agent.....	Do.
Thomas J. Greehan.....	Chief clerk.....	Do.
<b>Michigan:</b>		
Thomas E. Johnson.....	Superintendent of public instruction.....	Lansing.
W. L. Coffey.....	Deputy superintendent.....	Do.
G. N. Otwell.....	Assistant superintendent, head rural school division.....	Do.
C. L. Goodrich.....	Assistant superintendent, head high school division.....	Do.
Floyd A. Rowe.....	Assistant superintendent, head physical training division.....	Do.
Ida M. Huston.....	Assistant superintendent, head certification division.....	Do.
Nella Dietrich.....	Head of editorial division.....	Do.
Grace B. Wallace.....	Head of statistical division.....	Do.
.....	Head of parochial division.....	Do.
.....	Head of rehabilitation division.....	Do.
Bert J. Ford.....	Assistant superintendent, rural school division.....	Do.
Isabelle Becker.....	.....do.....	Do.
M. H. Milks.....	Building inspector, rural schools.....	Do.
Walter H. French.....	Director vocational education.....	Do.
E. E. Galtup.....	Supervisor of agriculture.....	Do.
K. G. Smith.....	Supervisor industrial education.....	Do.
Ruth Freegard.....	Supervisor home economics.....	Do.
<b>Minnesota:</b>		
J. M. McConnell.....	Commissioner of education.....	St. Paul.
P. C. Tønning.....	Deputy commissioner.....	Do.
E. M. Phillips.....	Director of vocational education and inspector of high schools.....	Do.
George A. Selke.....	Inspector of rural schools.....	Do.
G. M. Cesander.....	Assistant inspector of rural schools.....	Do.
Anna Swenson.....	.....do.....	Do.
R. B. MacLean.....	Inspector of elementary schools.....	Do.
H. E. Flynn.....	Inspector of teacher-training schools.....	Do.
J. E. Lunn.....	Assistant inspector of high and graded schools.....	Do.
Paul Calrow.....	Supervisor of agricultural education.....	Do.
G. A. McGarvey.....	Supervisor of trade and industrial education.....	Do.
Wylie B. McNeal.....	Supervisor of home-economics education.....	Do.
S. A. Chellman.....	Inspector of buildings and director of special classes for defectives.....	Minneapolis.
E. T. Critchett.....	Director teachers' employment bureau and secretary of teachers' retirement fund.....	St. Paul.

II.—PRINCIPAL STATE SCHOOL OFFICERS—Continued.

States and officers.	Official designation.	Address.
<b>Minnesota—Continued.</b>		
Clara F. Baldwin	Director of libraries	St. Paul.
Harriet A. Wood	Supervisor of school libraries and field organizer	Do.
Lillian E. Cook	Librarian	Do.
Gladys M. Brown	Reference librarian	Do.
Oscar M. Sullivan	Director of reeducation of injured persons	Do.
M. A. Morse	Assistant director of reeducation	Minneapolis.
K. O. Saertum	do.	St. Paul.
John O'Donnell	Placement officer	Do.
Christopher Lindahl	Accountant	Do.
<b>Mississippi:</b>		
W. F. Bond	State superintendent of public education	Jackson.
J. W. Broom	Assistant superintendent of public education	Do.
J. T. Calhoun	State supervisor rural schools	Do.
H. M. Ivy	High school inspector	Do.
Burs Hilbun	State supervisor of Negro schools	Do.
F. J. Hubbard	Director of secondary agricultural education	Do.
Patti M. Batson	Chief clerk	Do.
<b>Missouri:</b>		
Sam A. Baker	State superintendent of public schools and director of vocational and rehabilitation work	Jefferson City.
George W. Reavis	Assistant director	Do.
Raymond Shoop	Chief clerk	Do.
A. S. Boucher	Teacher-training inspector	Do.
George Cole	High school inspector	Do.
Henry W. Abeken	do.	Do.
E. M. Denby	Rural school inspector	Do.
Agnes Rank	do.	Do.
G. A. Theilman	do.	Do.
Joe Livingston	Statistician	Do.
Wm. T. Spanton	Supervisor of vocational agriculture	Do.
Arnold A. Sather	Assistant supervisor of vocational agriculture	Do.
James P. Lennie	Supervisor of trades and industries	Do.
Clare E. White	Supervisor of home economics	Do.
Ernest L. Schneider	Supervisor of industrial rehabilitation	Do.
C. M. Le Bow	Rehabilitation field officer	Kansas City.
Ervine Meyer	do.	St. Louis.
Lillian H. Davis	do.	Do.
C. G. Williams	Inspector of Negro schools	Jefferson City.
<b>Montana:</b>		
May Trumper	State superintendent of public instruction	Helena.
Mina Petrashek	Deputy superintendent	Do.
Carl A. Jessen	High-school supervisor	Do.
Adelaide M. Ayer	Rural-school supervisor	Do.
Amalie Knobel	do.	Do.
G. B. Edwards	Director of vocational education	Do.
Anne Larson	Certification clerk	Do.
<b>Nebraska:</b>		
John M. Matzen	State superintendent of public instruction	Lincoln.
John Speedie	Deputy superintendent of public instruction	Do.
Cora A. Thompson	Assistant superintendent of public instruction	Do.
Lulu S. Wolford	do.	Do.
Archer L. Burnham	Normal-training inspector	Do.
Frank R. Beers	Assistant normal-training inspector	Do.
I. N. Clark	Rural-school inspector	Do.
Cecile Snapp	Secretary	Do.
<b>Nevada:</b>		
W. J. Hunting	State superintendent of public instruction	Carson City.
Charles Priest	Deputy superintendent	Do.
B. H. Morrison	State director of vocational education	Do.
<b>New Hampshire:</b>		
E. W. Butterfield	Commissioner of education	Concord.
Harriet L. Huntress	Deputy commissioner	Do.
James N. Fringie	do.	Do.
Walter M. May	do.	Do.
William Y. Morrison	High school inspector	Do.
Elizabeth M. Murphy	Supervisor of health	Do.
W. B. Cockingham	Supervisor of agriculture	Do.
Walter A. Pierce	Supervisor of trades and industries	Do.
John Bishop	Inspector of child welfare	Claremont.
R. J. Mitchell	Inspector of child labor	Concord.
Curtis B. Bresnahan	do.	Newmarket.
Richard H. Horan	Accountant	Nashua.
<b>New Jersey:</b>		
John Enright	State commissioner of education	Concord.
	Deputy commissioner and in charge of hearings in controversies and disputes	Trenton.
L. L. Jackson	Assistant commissioner, secondary education	Do.
Roy S. Shaffer	Assistant commissioner, elementary education	Do.
Wesley A. O'Leary	Assistant commissioner, industrial education, including agriculture	Do.
E. A. Reuther	Assistant for the supervision of continuation schools	Do.

## II.—PRINCIPAL STATE SCHOOL OFFICERS—Continued.

States and officers.	Official designation.	Address.
<b>New Jersey—Continued.</b>		
R. A. Campbell.....	Assistant in industrial education.....	Trenton.
J. Gould Spofford.....	Assistant for training teachers of trades and industries.	Do.
H. O. Sampson.....	Assistant in agricultural education.....	Do.
Iris Prouty O'Leary.....	Special assistant for women's vocational work.....	Do.
Clara H. Krauter.....	Assistant for training teachers of home economics.....	Do.
John J. McCarthy.....	Assistant in industrial education.....	Do.
.....	Instructor and director physical training and hygiene.	Do.
Lester A. Palmer.....	Assistant director physical training and hygiene.....	Do.
Marianna G. Packer.....	Instructor in physical training and hygiene.....	Do.
Herbert N. Morse.....	Business manager.....	Do.
Henry W. Huston.....	Auditor of school accounts.....	Do.
Charles McDermott.....	Inspector of buildings.....	Do.
John S. Mount.....	Inspector of accounts.....	Do.
Alfred Christie.....	Statistician.....	Do.
<b>New Mexico:</b>		
John V. Conway.....	State superintendent of public instruction.....	Santa Fe.
Earl Douglass.....	Assistant State superintendent.....	Do.
Mabel A. Hughes.....	Secretary to State superintendent.....	Do.
Myron Luginbhl.....	Certification clerk.....	Do.
J. W. Giddings.....	Chief clerk.....	Do.
Ruth C. Miller.....	Industrial director.....	Do.
A. B. Anderson.....	Supervisor of trades and industries.....	Do.
R. W. Foard.....	Supervisor of agriculture.....	Do.
<b>New York:</b>		
Frank P. Graves.....	State commissioner of education.....	Albany.
Frank B. Gilbert.....	Deputy commissioner and counsel.....	Do.
Augustus S. Downing.....	Assist. commissioner and director professional education.....	Do.
Charles F. Wheelock.....	Assistant commissioner for secondary education.....	Do.
George M. Wiley.....	Assistant commissioner for elementary education.....	Do.
James I. Wyer, Jr.....	Director of State library.....	Do.
John M. Clarke.....	Director of science and State museum.....	Do.
Hiram C. Case.....	Chief of administration division.....	Do.
James D. Sullivan.....	Chief of attendance division.....	Do.
William R. Watson.....	Chief of educational extension division.....	Do.
Avery W. Skinner.....	Examination and inspections division.....	Do.
James Sullivan.....	Director of archives and history division.....	Do.
Frank H. Wood.....	Chief of school buildings and grounds.....	Do.
Irwin Esmond.....	Chief of law division.....	Do.
Edna M. Sanderson.....	Vice director of library school.....	Do.
Sherman Williams.....	Chief of school libraries division.....	Do.
Alfred W. Abrams.....	Chief of visual instruction division.....	Do.
Lewis A. Wilson.....	Director of agricultural and industrial education.....	Do.
Frederick A. Wilkes.....	Specialist in commercial education.....	Do.
<b>North Carolina:</b>		
E. C. Brooks.....	State superintendent of public instruction.....	Raleigh.
A. S. Brower.....	Director division of certification.....	Do.
Marybelle Delamar.....	Secretary division of certification.....	Do.
Frances Lacy.....	Assistant secretary, division of certification.....	Do.
C. D. Douglas.....	Supervisor of State loan fund.....	Do.
J. H. Highsmith.....	State supervisor of public high schools.....	Do.
L. C. Brogden.....	State agent for rural schools.....	Do.
Elizabeth Kelly.....	Supervisor of schools for adults.....	Do.
N. C. Newbold.....	Director of division of Negro education.....	Do.
A. T. Allen.....	Director of division of teacher-training.....	Do.
Susan Fulghum.....	Supervisor of division of teacher-training.....	Do.
Hattie Parrott.....	do.....	Goldboro.
Mrs. T. E. Johnston.....	do.....	Kinston.
J. J. Blair.....	Director of division of schoolhouse planning.....	Salisbury.
W. H. Pittman.....	Director of division of publications.....	Raleigh.
W. C. Crosby.....	Director of division of school extension.....	Do.
J. B. Williamson.....	Supervisor of mechanics.....	Do.
Mrs. C. S. Thomas.....	Film librarian.....	Do.
T. E. Browne.....	Director of vocational education.....	Do.
Edith M. Thomas.....	Supervisor of vocational home economics.....	Do.
Roy H. Thomas.....	Supervisor of agriculture.....	Do.
R. A. Olney.....	Assistant supervisor of agriculture.....	Do.
George W. Coggin.....	Supervisor of trades and industries.....	Do.
H. H. Willis.....	Assistant supervisor of trades and industries.....	Do.
H. L. Stanton.....	Supervisor of vocational rehabilitation.....	Do.
<b>North Dakota:</b>		
Minnie Nielson.....	State superintendent of public instruction.....	Bismark.
E. J. Taylor.....	Deputy superintendent.....	Do.
Bertha R. Palmer.....	Assistant superintendent.....	Do.
C. L. Robertson.....	High-school inspector.....	Do.
Edward Erickson.....	Rural-school inspector.....	Do.
A. C. Berg.....	do.....	Do.
J. W. Riley.....	do.....	Do.
Mrs. Margaret W. Page.....	Chief clerk.....	Do.

II.—PRINCIPAL STATE SCHOOL OFFICERS—Continued.

States and officers.	Official designation.	Address.
<b>Ohio:</b>		
Vernon M. Riegel.....	Director of education.....	Columbus.
W. B. Bliss.....	Assistant director of education.....	Do.
H. G. Swygert.....	Statistician.....	Do.
Geo. M. Morris.....	Rural school supervisor.....	Do.
T. Howard Winters.....	Inspector of teacher-training.....	Do.
Mrs. C. C. Waltermire.....	Assistant inspector teacher-training.....	Do.
E. B. Hawes.....	Chief, division of examination and licensing.....	Do.
H. D. Byrne.....	High school supervisor.....	Kent.
F. C. Landsittel.....	do.....	Columbus.
E. L. Heusch.....	Supervisor of trades and industries.....	Do.
E. W. Myers.....	Assistant supervisor of trades and industries.....	Pleasant Hill.
Ray Effe.....	Supervisor of agriculture.....	Columbus.
Enid W. Lunn.....	Supervisor of home economics.....	Do.
W. F. Shaw.....	Supervisor of industrial rehabilitation.....	Do.
Dale Wolf.....	Assistant supervisor of industrial rehabilitation.....	Do.
S. Cary Abercrombie.....	Female case worker.....	Do.
<b>Oklahoma:</b>		
Robert H. Wilson.....	State superintendent of public instruction.....	Oklahoma.
E. N. Collette.....	Assistant superintendent.....	Do.
Ella H. Hunt.....	Agricultural assistant.....	Edmund.
C. M. Howell.....	High school inspector.....	Do.
E. E. Tourtellotte.....	do.....	Stillwater.
Luther Russell.....	do.....	Wewaka.
E. A. Duke.....	Rural school supervisor.....	Oklahoma.
Pearl Hall.....	Chief clerk.....	Do.
<b>Oregon:</b>		
J. A. Churchill.....	State superintendent of public instruction.....	Salem.
W. M. Smith.....	Assistant state superintendent.....	Do.
Marie Schwab.....	Secretary.....	Do.
J. E. Calavan.....	Industrial field worker.....	Oregon City.
E. E. Elliott.....	State director of vocational education.....	Salem.
<b>Pennsylvania:</b>		
Thos. E. Pinegan.....	Superintendent of public instruction.....	Harrisburg.
J. George Becht.....	Deputy superintendent (higher education).....	Do.
Wm. D. Lewis.....	Deputy superintendent (secondary education).....	Do.
Fred Engelhardt.....	Director of administration bureau.....	Do.
C. W. Hunt.....	Assistant director of administration bureau.....	Do.
Jonas E. Wagner.....	do.....	Do.
Edwin E. Bach.....	District director of Americanization bureau.....	Do.
Lucy W. Glass.....	do.....	Do.
Eugene W. Fellows.....	do.....	Do.
Mrs. Sarah R. Christy.....	do.....	Do.
Alfred W. Castle.....	District director of teacher-training, Americanization bureau.....	Do.
Stella W. Jones.....	District director of women's work, Americanization bureau.....	Do.
W. M. Denison.....	Director of attendance bureau.....	Do.
William S. Taft.....	Assistant director of attendance bureau.....	Do.
D. E. Crosley.....	Supervisor of attendance.....	Do.
Mildred Fischer.....	do.....	Do.
J. Y. Shambach.....	do.....	Do.
George A. Stearns.....	do.....	Do.
Charles H. Keene.....	Director of health education.....	Do.
Katharine A. Pritchett.....	Supervisor of nutrition.....	Do.
Ethel Beard.....	Supervisor of school nursing.....	Do.
Helena McCray.....	Supervisor of health education.....	Do.
Harry R. Allen.....	Supervisor of physical education.....	Do.
Wm. G. Moorehead.....	do.....	Do.
Mary H. Heffernan.....	do.....	Do.
C. D. Koch.....	Director of credential bureau.....	Do.
A. D. Jackson.....	Assistant director of credential bureau.....	Do.
Lee L. Driver.....	Director of rural education.....	Do.
Thomas A. Bock.....	Assistant director of rural education.....	Do.
Robert C. Shaw.....	do.....	Do.
Dallas W. Armstrong.....	do.....	Do.
Hubert C. Eicher.....	Director of school buildings bureau.....	Do.
Carlisle D. Hasness.....	Assistant, school buildings bureau.....	Do.
Maurice E. Kressly.....	do.....	Do.
M. Edwin Green.....	do.....	Do.
H. H. Balsh.....	Secretary of school employees' retirement.....	Do.
Francis N. Maxfield.....	Director of special education.....	Do.
Muriel Brown.....	Supervisor of special education.....	Do.
Edna M. Kugler.....	do.....	Do.
Albert L. Rowland.....	Director of teacher bureau.....	Do.
Francis B. Haas.....	Assistant director of teacher bureau.....	Do.
Henry Klonower.....	Assistant, teacher placement service.....	Do.
William S. Taylor.....	Assistant, vocational teacher-training.....	Do.
L. H. Dennis.....	Director of vocational bureau.....	Do.
J. D. Blackwell.....	Assistant director of agricultural education.....	Do.
J. K. Bowman.....	Supervisor of agricultural education.....	Do.
H. C. Fetterolf.....	do.....	Do.

## II.—PRINCIPAL STATE SCHOOL OFFICERS—Continued.

States and officers.	Official designation.	Address.
<b>Pennsylvania—Continued.</b>		
H. E. Gayman.....	Supervisor of agricultural education.....	Harrisburg.
Frank R. Morey.....	Supervisor of school gardens.....	Do.
Owen D. Evans.....	Assistant director of continuation schools.....	Do.
Helen J. Dodge.....	Assistant director of home economics.....	Do.
Mrs. Anna G. Green.....	Supervisor of home economics.....	Do.
Lu M. Hartman.....	do.....	Do.
F. Theodore Struck.....	Assistant director of industrial education.....	Do.
Wm. Penn Loomis.....	Supervisor of industrial education.....	Do.
Gerald D. Whitney.....	do.....	Do.
Harold L. Holbrook.....	do.....	Do.
C. Valentine Kirby.....	Director of art education.....	Do.
F. G. Nichols.....	Director of commercial education.....	Do.
Orton Lowe.....	Director of English.....	Do.
G. C. L. Reimer.....	Director of foreign languages.....	Do.
Erna Grassmuck.....	Director of geography.....	Do.
J. A. Foberg.....	Director of mathematics.....	Do.
Hollis Dann.....	Director of music.....	Do.
Selma M. Konold.....	Supervisor of music.....	Do.
Clara F. Sanford.....	do.....	Do.
Adeline B. Zachert.....	Director of school libraries.....	Do.
J. Lynn Barnard.....	Director of social studies.....	Do.
Helen M. Peppard.....	Director of speech improvement.....	Do.
James M. Glass.....	Director of junior high schools.....	Do.
James G. Pents.....	Inspector of junior high schools.....	Do.
<b>Philippine Islands:</b>		
Luther B. Bewley.....	Director of education.....	Manila.
Camilio Oslas.....	Assistant director of education.....	Do.
John W. Osborn.....	Assistant to the director of education.....	Do.
John J. Heffington.....	Acting superintendent, Department of Mindanao and Sulu.....	Zamboanga.
Jose A. De Kastro.....	Chief clerk.....	Manila.
G. Glenn Lyman.....	Superintendent of property and accounts.....	Do.
North H. Foreman.....	Superintendent of agricultural instruction.....	Do.
Roy K. Gilmore.....	Chief, academic division.....	Do.
Horace E. Culter.....	Chief, industrial division.....	Do.
.....	Chief, buildings division.....	Do.
Jose Reyes.....	Chief of records.....	Do.
Mariano del Rosario.....	Chief accountant.....	Do.
Jacinto Atanacio.....	Disbursing officer.....	Do.
Alberto Delusing.....	Property officer.....	Do.
<b>Porto Rico:</b>		
Juan B. Huyke.....	Commissioner of education.....	San Juan.
Carey Hickle.....	Assistant commissioner.....	Do.
Francisco Vizcarrondo.....	Secretary of department.....	Do.
Joseph C. Morin.....	General superintendent.....	Do.
George V. Keelan.....	do.....	Do.
Jose Gonzales Ginorio.....	General superintendent of Spanish.....	Do.
George A. Harriman.....	Chief, division of property and accounts.....	Do.
A. Gonzales Font.....	Chief, division of municipal school affairs.....	Do.
<b>Rhode Island:</b>		
Walter E. Ranger.....	Commissioner of education.....	Providence.
Emerson L. Adams.....	Assistant commissioner.....	Do.
Charles Carroll.....	Secretary and deputy for vocational education.....	Do.
John L. Alger.....	Inspector of high schools.....	Do.
Anne W. Congdon.....	Library visitor.....	Do.
Leslie E. Abbott.....	Supervisor of agricultural education.....	Kingston.
Ida S. Harrington.....	Supervisor of home economics education.....	Do.
Benj. T. Leland.....	Supervisor of industrial education.....	Providence.
Agnes M. Bacon.....	Supervisor of Americanization.....	Do.
<b>South Carolina:</b>		
J. E. Swearingen.....	State superintendent of education.....	Columbia.
E. D. Easterling.....	Chief clerk.....	Do.
W. A. Shealy.....	Mill school supervisor.....	Do.
P. W. Bethes.....	Rural school supervisor.....	Do.
B. L. Parkinson.....	State high-school inspector.....	Do.
Miss Wil Lou Gray.....	Supervisor of adult schools.....	Do.
J. B. Felton.....	Supervisor of Negro schools.....	Do.
Verd Peterson.....	Supervisor of agricultural instruction.....	Do.
E. W. Garriss.....	do.....	Do.
H. B. Adams.....	Supervisor of trade and industrial education.....	Do.
R. E. Lee.....	State school architect.....	Chamson College.
Lillian Hoffman.....	Supervisor of vocational home economics.....	Columbia.
Mattie E. Thomas.....	Community school organizer.....	Do.
D. L. Lewis.....	Rural school supervisor.....	Do.
J. H. Shealy.....	Registrar, teacher placement bureau.....	Do.
A. O. V. Hoffman.....	Bookkeeper.....	Do.
<b>South Dakota:</b>		
Fred L. Shaw.....	State superintendent of public instruction.....	Pierre.
Charles T. King.....	Deputy superintendent.....	Do.
M. M. Gubin.....	Director of Americanization and rural education.....	Do.

II.—PRINCIPAL STATE SCHOOL OFFICERS—(Continued.)

States and officers.	Official designation.	Address.
<b>South Dakota—Continued.</b>		
Fred E. Smith.....	High school supervisor and director of vocational education.	Pierre.
Gertrude Lyness.....	Assistant in Americanization.....	Do.
Bonnie Martin.....	Assistant in rural education.....	Do.
Gilbert I. Ruden.....	do.....	Do.
Edna Courtney.....	Supervisor of home economics.....	Do.
Gertrude Lison.....	Supervisor of rehabilitation of persons injured in industry.	Do.
M. A. Sharp.....	Supervisor of vocational agriculture.....	Do.
Helen Brelsford.....	Supervisor of certification.....	Do.
Gertrude Fischbach.....	Credentials clerk.....	Do.
Ellen Dunlevy.....	Examination clerk.....	Do.
Ira Howell.....	Truancy officer.....	Do.
<b>Tennessee:</b>		
J. B. Brown.....	State superintendent of public instruction.....	Nashville.
B. O. Duggan.....	State high-school inspector.....	Do.
J. W. Brister.....	Associate high-school inspector.....	Do.
P. L. Harned.....	State rural school agent.....	Do.
Ollie H. Bernard.....	State rural school supervisor.....	Do.
D. M. Clements.....	Agricultural supervisor.....	Do.
James Arentson.....	Industrial supervisor.....	Do.
Lena Pierce.....	Supervisor of home economics.....	Do.
Emma Watts.....	Director of library extension.....	Do.
Joe Jennings.....	Chief clerk.....	Do.
<b>Texas:</b>		
Annie Webb Blanton.....	State superintendent of public instruction.....	Austin.
S. M. N. Marrs.....	First assistant superintendent.....	Do.
Mary Jo Poppewell.....	Second assistant superintendent.....	Do.
Mrs. Ella F. Little.....	Third assistant superintendent.....	Do.
Katherine Gray.....	Chief supervisor of high schools.....	Do.
C. L. Davis.....	Director of agricultural education.....	Do.
J. H. Hinds.....	Assistant director of agricultural education.....	Do.
Jessie Harris.....	Director of home economics.....	Do.
Lillian Peek.....	Assistant director of home economics.....	Do.
N. S. Hunsdon.....	Director of industrial education.....	Do.
Lizzie M. Barbour.....	Assistant director of industrial education.....	Do.
L. D. Borden.....	Chief supervisor of rural schools.....	Do.
L. W. Rogers.....	Chief of division of Negro schools.....	Do.
Minnie L. Barrett.....	Director of textbook administration.....	Do.
Mrs. J. B. Gay.....	Statistician.....	Do.
Amy V. Allen.....	Auditor.....	Do.
Selby Attwell.....	Certificate clerk.....	Do.
Emma Mitchell.....	Chairman and college examiner of State board of examiners.	Do.
<b>Utah:</b>		
C. N. Jensen.....	State superintendent of public instruction.....	Salt Lake City.
E. J. Norton.....	Deputy superintendent.....	Do.
Mosiah Hall.....	State supervisor of industrial rehabilitation.....	Do.
E. G. Gowan.....	State director of health education.....	Do.
Irvin S. Noall.....	State supervisor in trades and industries.....	Do.
I. B. Ball.....	State supervisor in agriculture.....	Do.
Jean Cox.....	State supervisor in home economics.....	Do.
A. C. Matheson.....	State director of Americanization.....	Do.
Matilda Peterson.....	State primary supervisor.....	Do.
<b>Vermont:</b>		
Clarence H. Dempsey.....	Commissioner of education.....	Montpelier.
J. D. Whittier.....	State supervisor of junior high schools.....	Do.
E. P. Hamilton.....	Supervisor of elementary education.....	Burlington.
Katherine Agesen.....	Executive clerk, State board.....	Montpelier.
Rose Lucia.....	Director of teacher training.....	Do.
<b>Virginia:</b>		
Harris Hart.....	State superintendent of public instruction.....	Richmond.
J. N. Hillman.....	Secretary State board of education.....	Do.
E. E. Worrell.....	State supervisor of rural schools.....	Do.
W. D. Gresham.....	State supervisor of Negro schools.....	Do.
Thomas D. Eason.....	State supervisor of agricultural education.....	Do.
Henry G. Ellis.....	State supervisor of high schools.....	Do.
Rachel E. Gregg.....	State supervisor of teacher training.....	Do.
Raymond V. Long.....	State supervisor of trades and industries.....	Do.
Mrs. Ora H. Avery.....	State supervisor of home economics education.....	Do.
Guy C. Throner.....	State supervisor of physical education.....	Do.
<b>Washington:</b>		
Mrs. Josephine C. Preston.....	State superintendent of public instruction.....	Olympia.
Blanche A. Nagel.....	Assistant superintendent.....	Do.
W. U. Neeley.....	Deputy superintendent.....	Do.
Edwin Twitmyer.....	High-school inspector.....	Do.
<b>West Virginia:</b>		
George M. Ford.....	State superintendent of schools.....	Charleston.
J. H. Hickman.....	Assistant superintendent.....	Do.
J. F. Marsh.....	Secretary and field agent, State board of education.....	Do.

## II.—PRINCIPAL STATE SCHOOL OFFICERS—Continued.

States and officers.	Official designation.	Address.
<b>West Virginia—Continued.</b>		
L. L. Friend.....	Supervisor of high schools.....	Charleston.
E. E. Knight.....	Assistant supervisor of high schools.....	Do.
J. D. Muldoon.....	Supervisor of rural schools.....	Do.
J. S. Bomar.....	Assistant supervisor of rural schools.....	Do.
Melville Stewart.....	do.....	Do.
Wm. W. Sanders.....	Supervisor of Negro schools.....	Do.
Frank M. Kearns.....	Director of department of medical inspection and sanitation.....	Do.
Phil M. Conley.....	Supervisor, department of citizenship and thrift.....	Do.
Robert Clark.....	Supervisor, department of teacher-training.....	Do.
Lillian Carver.....	Assistant supervisor, department of teacher-training.....	Do.
George E. Hubbs.....	Supervisor of department of trades and industries.....	Do.
John C. Shaw.....	Agent for rehabilitation.....	Wheeling.
O. A. Watson.....	do.....	Buckhannon.
Wm. C. Meadows.....	do.....	Charleston.
H. K. Barbe.....	do.....	Weich.
Jno. W. Cook.....	Statistician and bookkeeper.....	Charleston.
H. A. Stover.....	Supply clerk.....	Do.
<b>Wisconsin:</b>		
John Callahan.....	State superintendent of public schools.....	Madison.
C. J. Anderson.....	Assistant State superintendent.....	Do.
C. L. Harper.....	Second assistant State superintendent.....	Do.
O. S. Rice.....	Supervisor of school libraries.....	Do.
W. J. Osburn.....	Supervisor of educational measurements.....	Do.
Joseph T. Giles.....	Supervisor of high schools.....	Do.
Pauline B. Camp.....	Supervisor of day schools for the deaf and blind.....	Do.
H. W. Schmidt.....	Supervisor of manual arts.....	Do.
Geo. H. Drewry.....	State school supervisor.....	Do.
S. Miles Thomas.....	do.....	Do.
W. T. Anderson.....	do.....	Do.
Annie Reynolds.....	Supervisor of elementary schools and supervising teachers.....	Do.
Maybell G. Bush.....	Supervisor of elementary schools.....	Do.
Isobel Davidson.....	do.....	Do.
Elizabeth L. Woods.....	Clinical psychologist and supervisor of special classes.....	Do.
Mellicent Waterhouse.....	Assistant psychologist.....	Do.
A. A. Thomson.....	Supervisor of rural schools.....	Do.
George S. Dick.....	do.....	Do.
Irene Newman.....	Assistant librarian.....	Do.
Aletta Olson.....	Diploma and certificate clerk.....	Do.
John F. Shaw.....	Publicity editor.....	Do.
<b>Wyoming:</b>		
Mrs. Katharine A. Morton.....	State superintendent of public instruction.....	Cheyenne.
Serafina Facinelli.....	Deputy superintendent of public instruction.....	Do.
Lewis C. Tidball, Jr.....	Commissioner of education and chief of certification division.....	Do.
James R. Coxen.....	State director of vocational education.....	Do.
W. M. Horne.....	State supervisor of vocational agriculture.....	Do.
Elise A. Seyfarth.....	State director of special classes.....	Do.
Virginia Warkley.....	Assistant State director of special classes.....	Do.

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS.

County.	County superintendent.	County.	County superintendent.
<b>ALABAMA.</b>		<b>ALABAMA—contd.</b>	
Autauga.....	Mrs. R. L. Faucett, Prattville.	Covington.....	J. A. Keller, Andalusia.
Baldwin.....	S. M. Tharp, Bay Minette.	Crenshaw.....	T. A. Capps, Luverne.
Barbour.....	P. A. McDaniel, Jr., Clayton.	Cullman.....	A. B. Murphree, Cullman.
Bibb.....	H. H. Jones, Centerville.	Dale.....	E. C. Palmer, Newton.
Blount.....	A. L. Head, Oneonta.	Dallas.....	D. M. Callaway, Selma.
Bullock.....	F. B. Haynes, Union Springs.	DeKalb.....	C. J. Allen, Fort Payne.
Butler.....	P. B. Pepper, Greenville.	Elmore.....	G. H. Howard, Wetumpka.
Calhoun.....	S. B. Gibson, Anniston.	Escambia.....	R. H. Southernland, Brewton.
Chambers.....	G. M. Barnett, Lafayette.	Etowah.....	E. P. Murphy, Gadsden.
Cherokee.....	John W. Browder, Center.	Fayette.....	Z. D. Vick, Fayette.
Chilton.....	H. L. Foshee, Clanton.	Franklin.....	John R. Guin, Russellville.
Choctaw.....	Zac Rogers, Butler.	Geneva.....	J. G. Austin, Hartford.
Clarke.....	J. F. Gillis, Grove Hill.	Greene.....	W. P. Archibald, Knoxville.
Clay.....	W. T. Harwell, Ashland.	Hale.....	Edward L. Coleback, Greensboro.
Cleburne.....	G. B. Boman, Heflin.	Henry.....	O. E. Tompkins, Abbeville.
Coffee.....	G. C. Bowden, Elba.	Houston.....	C. W. Johnson, Dothan.
Colbert.....	J. T. McKee, Tusculumbia.	Jackson.....	Jesse Wheeler, Scottsboro.
Conecuh.....	W. R. Bennett, Evergreen.	Jefferson.....	N. R. Baker, Birmingham.
Coosa.....	O. K. Weldon, Rockford.		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
<b>ALABAMA—contd.</b>		<b>ALABAMA—contd.</b>	
Lamar.....	G. S. Smith, Vernon.	Perry.....	W. R. Carothers, Marion.
Laureldeale.....	D. O. Warren, Florence.	Pickens.....	W. H. Storey, Carrollton.
Lawrence.....	E. M. Hodson, Moulton.	Pike.....	Mrs. J. M. Sanders, Troy.
Lee.....	W. Y. Fleming, Opelika.	Randolph.....	I. G. Hendon, Wedowee.
Limestone.....	M. K. Clements, Athens.	Russell.....	H. B. Hamner, Seale.
Lowndes.....	J. A. Coleman, Hayneville.	St. Clair.....	Carl O. Baxter, Ashville.
Macon.....	W. B. Riley, Tuskegee.	Shelby.....	S. P. Williamson, Sterrett.
Madison.....	S. R. Butler, Huntsville.	Sumter.....	R. B. Callaway, Livingston.
Marengo.....	Geo. M. Watson, Linden.	Talladega.....	D. A. McNeill, Talladega.
Marion.....	T. D. Brooks, Hamilton.	Tallapoosa.....	J. D. Lane, Dadeville.
Marshall.....	E. O. Creel, Guntersville.	Tuscaloosa.....	D. L. Smith, Tuscaloosa.
Mobile.....	S. S. Murphy, Mobile.	Walker.....	J. Alex Moore, Jasper.
Monroe.....	Geo. A. Harris, Monroeville.	Washington.....	C. C. Smith, Chatham.
Montgomery.....	A. L. Harman, Montgomery.	Wilcox.....	O. C. Weaver, Camden.
Morgan.....	E. L. Hays, Albany.	Winston.....	A. B. Curtis, Double Springs.

District.	District superintendent of schools for natives.	District.	District superintendent of schools for natives.
<b>ALASKA.</b>		<b>ALASKA—cont'd.</b>	
Northwestern district.	James H. Maguire, Noorvik.	Southeastern district.	C. W. Hawkesworth, Juneau.
Western district...	Earle M. Forrest, Akia.	Seward Peninsula district.	Jean Dupertuis, Nome.
Upper Yukon district.	Benj. B. Moze, Tanana.		
Southwestern district.	Arthur H. Miller, Anchorage.		

County.	County superintendent.	County.	County superintendent.
<b>ARIZONA.</b>		<b>ARKANSAS—contd.</b>	
Apache.....	Mrs. Nancy Gibbons, St. Johns.	Dallas.....	Mrs. J. B. Nunn, Fordyce.
Cochise.....	Helen L. Brown, Cochise.	Deaha.....	L. M. Gary, Dumas.
Cocconino.....	Virginia Lockett, Flagstaff.	Drew.....	E. C. Robertson, Monticello.
Gila.....	Lucy Nash, Globe.	Faulkner.....	A. A. Parsons, Jr., Conway.
Graham.....	S. C. Heywood, Safford.	Franklin.....	W. I. Agee, Ozark.
Greenlee.....	Mrs. Jessie L. Johnson, Clifton.	Fulton.....	Fred Moore, Salem.
Maricopa.....	A. L. Jones, Phoenix.	Garland.....	Garnett Braughton, Hot Springs.
Mohave.....	Mrs. R. A. Lassell, Kingman.	Grant.....	D. O. Rushing, Sheridan.
Navajo.....	Mrs. Hattie Penrod, Holbrook.	Greene.....	H. R. Partlow, Paragould.
Pima.....	Mrs. Kate Reynolds, Tucson.	Hempstead.....	H. D. Clark, Hope.
Pinal.....	Lola Le Baron, Florence.	Hot Spring.....	R. F. Tackett, Friendship.
Santa Cruz.....	Mrs. Josephine Saxon, Nogales.	Howard.....	Ed Compton, Nashville.
Yavapai.....	Mrs. Ward H. Wheeler, Prescott.	Independence.....	W. T. Jernigan, Batesville.
Yuma.....	Nora E. Morrow, Yuma.	Izard.....	T. H. Linn, Melbourne.
<b>ARKANSAS.</b>		Jackson.....	G. E. Land, Newport.
Arkansas.....	J. M. Henderson, Jr., De Witt.	Jefferson.....	W. P. Keith, Pine Bluff.
Ashley.....	F. T. McCuiston, Hamburg.	Johnson.....	R. C. Temple, Clarksville.
Baxter.....	W. H. Osburn, Mountain Home.	Lafayette.....	J. F. Bright, Lewisville.
Benton.....	F. A. Wood, Bentonville.	Lawrence.....	W. E. McLeod, Walnut Ridge.
Boone.....	R. B. Gaston, Harrison.	Lee.....	Alma Futrall, Marianna.
Bradley.....	W. M. Brown, Warren.	Lincoln.....	W. R. Stephens, Jr., Star City.
Calhoun.....	Lewis Doherty, Thornton.	Little River.....	L. F. Wheelis, Ashdown.
Carroll.....	Clifford Fry, Berryville.	Logan.....	H. G. Thomasson, Magazine.
Chicot.....	D. T. Henderson, Lake Village.	Lonoke.....	W. C. Davis, Lonoke.
Clark.....	A. S. Ross, Arkadelphia.	Madison.....	Afton Wheeler, Huntsville.
Clay.....	W. W. Henry, Corning.	Marion.....	L. E. Briggs, Yellville.
Cleburne.....	B. F. Jordan, Heber Springs.	Miller.....	Otto Forehand, Texarkana.
Cleveland.....	R. C. Carmical, Rison.	Mississippi.....	W. M. Crow, Blytheville.
Columbia.....	Mary Harper, Magnolia.	Monroe.....	W. E. Phipps, Clarendon.
Conway.....	T. L. Haynes, Morrilton.	Montgomery.....	Ernest Berry, Mount Ida.
Craighead.....	E. B. Barrett, Jonesboro.	Nevada.....	J. W. Teeter, Prescott.
Crawford.....	J. P. Bingham, Van Buren.	Newton.....	J. O. Ferrer, Jasper.
Crittenden.....	T. P. Johnson, Earle.	Ouachita.....	J. J. Tibbitts, Camden.
Cross.....	H. L. Lessenberry, Wynne.	Perry.....	W. B. Loudermilk, Adona.
		Phillips.....	L. P. Anderson, Marvell.
		Pike.....	G. C. Floyd, Murfreesboro.
		Poinsett.....	V. A. Murphy, Harrisburg.



## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
<b>ARKANSAS—contd.</b>		<b>CALIFORNIA—CON.</b>	
Polk.....	W. H. Morden, Mena.	Sierra.....	Belle Alexander, Downieville.
Pope.....	T. D. Buflock, Russellville.	Siskiyou.....	W. L. Kleever, Yreka.
Prairie.....	Lillie Bryant, De Valls Bluff.	Solano.....	Dan H. White, Fairfield.
Pulaski.....	Mrs. F. H. Dodge, Little Rock.	Sonoma.....	Ben Ballard, Santa Rosa.
Randolph.....	R. A. Mock, Pocahtontas.	Stanislaus.....	A. G. Elmore, Modesto.
St. Francis.....	J. M. Wilson, Forrest City.	Sutter.....	Lizzie Vagedes, Yuba City.
Saline.....	W. A. Jackson, Benton.	Tehama.....	Mamie B. Lang, Red Bluff.
Scott.....	G. C. Ellis, Waldron.	Trinity.....	Lucy Young, Weaverville.
Searcy.....	J. M. McCall, Marshall.	Tulare.....	J. E. Buckman, Visalia.
Sebastian.....	L. M. Bedwine, Greenwood.	Tuolumne.....	G. P. Morgan, Sonora.
Sevier.....	L. E. Quinn, De Queen.	Ventura.....	Mrs. Blanche T. Reynolds,
Sharp.....	W. T. McJunkins, Ash Flat.	Yolo.....	Harriett S. Lee, Woodland.
Stone.....	J. T. Campbell, Mountain View.	Yuba.....	Jennie Mahaley, Marysville.
Union.....	Mrs. Helen S. Henry, El Dorado.		
Van Buren.....	T. J. Cowan, Clinton.	<b>COLORADO.</b>	
Washington.....	O. W. Dass, Fayetteville.	Adams.....	Mary V. McFarland, Brighton.
White.....	J. W. Henry, Searcy.	Alamosa.....	Harriett Dalzell, Alamosa.
Woodruff.....	J. T. Caughley, Augusta.	Arapahoe.....	Mrs. Sada R. Wilson, Littleton.
Yell.....	T. A. Wright, Dardanelle.	Archuleta.....	Mrs. Sadie Betzer, Pagosa Springs.
		Baca.....	Mrs. Margaret E. Jackson, Springfield.
<b>CALIFORNIA.</b>		Bent.....	Minnie Rimmer, Las Animas.
Alameda.....	Geo. W. Frick, Oakland.	Boulder.....	Mrs. Anna J. Bittner, Boulder.
Alpine.....	Mrs. Eugenia M. Bruns, Sheridan, Nev.	Chaffee.....	Marion B. Wallace, Buena Vista.
Amador.....	Mrs. Sabra Greenhalgh, Jackson.	Cheyenne.....	Esther B. Weir, Cheyenne Wells.
Butte.....	Irvin Passmore, Oroville.	Clear Creek.....	Mrs. Elizabeth Gleason, Idaho Springs.
Calaveras.....	Teresa Rivara, San Andreas.	Conejos.....	Mrs. Mable Mickelson, Conejos.
Colusa.....	Perle Sanderson, Colusa.	Costilla.....	Mrs. Elizabeth F. Dugan, San Luis.
Contra Costa.....	Wm. H. Hanlon, Martinez.	Crowley.....	R. E. Rhine, Ordway.
Del Norte.....	Edwin A. Moore, Crescent City.	Custer.....	Mrs. Lou C. Beaman, Westcliffe.
El Dorado.....	E. J. Fitzgerald, Placerville.	Delta.....	Mrs. Grace Cummings, Delta.
Fresno.....	Clarence W. Edwards, Fresno.	Denver.....	Mrs. Helen M. Wixon, Denver.
Glenn.....	S. M. Chaney, Willows.	Dolores.....	Eva M. Bell, Rico.
Humboldt.....	Robert A. Bugbee, Eureka.	Douglas.....	Mrs. Lenora Prescott, Castle Rock.
Imperial.....	H. C. Coe, El Centro.	Eagle.....	Mrs. Ollie G. Meyer, Red Cliff.
Inyo.....	Mrs. M. A. Clarke, Bishop.	Elbert.....	Minerva McCarty, Kiowa.
Kern.....	L. E. Chenoweth, Bakersfield.	El Paso.....	Mrs. Inez Johnson Lewis, Colorado Springs.
Kings.....	Miss M. L. Richmond, Hanford.	Fremont.....	Mrs. Carrie T. Anthony, Canon City.
Lake.....	Minerva Ferguson, Lakeport.	Garfield.....	Mrs. Gretta Pottinger, Glenwood Springs.
Lassen.....	Mrs. Julia Norwood, Susanville.	Gilpin.....	Mrs. Edith Williams, Central City.
Los Angeles.....	Mark Keppel, Los Angeles.	Grand.....	Mrs. Carrie D. Schnoor, Fraser.
Madera.....	Craig Cunningham, Madera.	Gunnison.....	Helen Blackstock, Gunnison.
Marin.....	Jas. B. Davidson, San Rafael.	Hinsdale.....	Mabel B. Rawson, Lake City.
Mariposa.....	John L. Dexter, Mariposa.	Huerfano.....	Dorothy Arnold, Walsenburg.
Mendocino.....	Roy Good, Ukiah.	Jackson.....	Mrs. Minnie Bock, Walden.
Merced.....	Mrs. Belle S. Gribb, Merced.	Jefferson.....	Myrtle Songer, Golden.
Modoc.....	Mrs. Nettie B. Harris, Alturas.	Kiowa.....	Florence B. Barnard, Eads.
Mono.....	Mildred Gregory, Bodie.	Kit Carson.....	Jessie Magee Gray, Burlington.
Monterey.....	H. Louise Schmitsberg, Salinas.	Lake.....	Mrs. Mary C. Clark, Leadville.
Napa.....	Lena A. Jackson, Napa.	La Plata.....	Nell McCarty, Durango.
Nevada.....	Elizabeth M. Richards, Nevada City.	Larimer.....	Emma T. Wilkins, Fort Collins.
Orange.....	R. P. Mitchell, Santa Ana.	Las Animas.....	Elmore Floyd, Trinidad.
Placer.....	Irene Burns, Auburn.	Lincoln.....	Mrs. Della Winder, Hugo.
Plumas.....	Mrs. Kate I. Donnelly, Quincy.	Logan.....	Flora A. Allison, Sterling.
Riverside.....	Ira C. Landis, Riverside.	Mesa.....	Mrs. Elizabeth Hinton, Grand Junction.
Sacramento.....	Carolyne M. Webb, Sacramento.	Mineral.....	Mrs. Mary N. Oates, Creede.
San Benito.....	W. J. Cagney, Hollister.	Moffat.....	Mrs. Laura K. Canon, Craig.
San Bernardino.....	Mrs. Grace C. Stanley, San Bernardino.	Montezuma.....	Mrs. Nora S. Hutchings, Cortez.
San Diego.....	Ada York, San Diego.	Montrose.....	Sarah L. Taylor, Montrose.
San Francisco.....	Alfred Roncovieri, San Francisco.	Morgan.....	Laura N. Buhstet, Fort Morgan.
San Joaquin.....	Mrs. Effie Anderson, Stockton.	Otero.....	R. D. McClintock, La Junta.
San Luis Obispo.....	Robert L. Bird, San Luis Obispo.		
San Mateo.....	Roy W. Cloud, Redwood City.		
Santa Barbara.....	A. S. Pope, Santa Barbara.		
Santa Clara.....	Agnes E. Howe, San Jose.		
Santa Cruz.....	Cecil M. Davis, Santa Cruz.		
Shasta.....	Mrs. Charlotte Cunningham, Redding.		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
<b>COLORADO—CON.</b>		<b>COLORADO—CON.</b>	
Ouray.....	Statie Erickson, Ouray.	San Juan.....	Mrs. Mary B. Hodges, Silverton.
Park.....	Mrs. Zoe R. Chapman, Fairplay.	San Miguel.....	Kathleen O'Kelly, Telluride.
Phillips.....	Chas. R. Peters, Holyoke.	Sedgwick.....	Mrs. Elma Schroeder, Julesburg.
Pitkin.....	Mrs. Anna Short, Aspen.	Summit.....	Mrs. Alice Richardson, Breckenridge.
Prowers.....	Pauline Gilbert, Lamar.	Teller.....	Mrs. Blanche C. Odell, Cripple Creek.
Pueblo.....	Mrs. Lillie O. Baker, Pueblo.	Washington.....	Rosa E. Bachman, Akron.
Rio Blanco.....	Lillian Baker, Meeker.	Weld.....	C. W. Martin, Greeley.
Rio Grande.....	Carrie Deitrich, Monte Vista.	Yuma.....	T. H. Hooper, Wray.
Routt.....	Anna Funk, Hayden.		
Saguache.....	Mrs. Margaret Martin, Saguache.		
Towns in union.	Supervising agents.	Towns in union.	Supervising agents.
<b>CONNECTICUT.</b>		<b>CONNECTICUT—continued.</b>	
Ashford, Coventry, Mansfield.	A. W. Greer, Willimantic.	Cornwall, Kent, Sharon.	H. M. Jeffords, Kent.
Avon, Burlington, Farmington.	L. S. Mills, Plainville.	Cromwell, Had-dam.	A. L. Young, Middletown.
Barkhamsted, Colebrook, Goshen, Hartland, New Hartford.	F. J. Panley, Winsted.	Durham, Middlefield, North Branford, Wood-bridge.	Elsie Klein, 76 Harriet St., Bridgeport.
Beacon Falls, Bethany, Oxford, Prospect, Wolcott.	I. B. Dunfield, Waterbury.	Eastford, Pomfret, Union, Woodstock.	T. F. Rupp, Putnam.
Bethlehem, Wood-bury.	G. C. Swift, Watertown.	East Granby, Suffield.	H. B. Chapman, Suffield.
Bloomfield, Newington.	W. H. Mandrey, 25 Brookline Ave., Hartford.	East Hampton, Portland.	J. F. Connolly, Middletown.
Bolton.....	W. S. Dakin, State Capitol, Hartford.	East Lyme, Old Lyme, Lyme, Salem.	F. T. Wilson, Niantic.
Borrah, Ledyard, North Stonington, Preston.	S. Hussey Reed, Norwich.	Easton, Monroe, Trumbull, West-ton.	F. W. Knight, 273 Wayne St., Bridgeport.
Bridgewater, Rox-bury, Sherman, Warren.	O. E. Lowell, New Milford.	Ellington, Somers, Tolland.	L. C. Staples, Ellington.
Brookfield, New Fairfield, Redding, Wilton.	H. D. Sylvester, Danbury.	Hampton, Scot-land.	C. L. Brownell, State Capitol, Hartford.
Canaan, North Canaan, Salisbury.	W. M. Teague, Canaan.	Harwinton.....	R. N. Brown, Thomaston.
Canterbury, Lis-bon, Sterling, Voluntown.	Sarah T. Palmer, North Stonington.	Killingworth Westbrook.	Larla Roundy, Deep River.
Canton, Granby... Cheshire, North Haven.	W. M. Strong, Collinsville.	Madison.....	A. D. Simpson, State Capitol, Hartford.
Chester, Old Say-brook, Saybrook.	D. C. Allen, North Haven.	Middlebury, New-town, South-bury.	F. H. Johnston, Newtown.
Colchester, Hebron, Marlborough.	C. W. Maddocks, Deep River.	Rocky Hill.....	F. E. Harrington, State Capitol, Hartford.
Columbia, Frank-lin, Lebanon, Sprague.	H. S. Libby, Colchester.	Washington.....	E. W. Ireland, State Capitol, Hartford.
		Willington.....	L. T. Garrison, Willimantic.
County.	County superintendent.	County.	County superintendent.
<b>FLORIDA.</b>		<b>FLORIDA—contd.</b>	
Alachua.....	E. R. Simmons, Gainesville.	Clay.....	P. L. Tippins, Green Cove Springs.
Baker.....	W. R. Simmons, Macclenny.	Columbia.....	J. W. Burns, Lake City.
Bay.....	C. C. Mathis, Panama City.	Dade.....	Chas. M. Fisher, Miami.
Bradford.....	H. B. Wiggins, Starke.	De Soto.....	P. G. Shaver, Arcadia.
Brevard.....	S. J. Overstreet, Titusville.	Dixie.....	W. R. Fletcher, Fletcher.
Broward.....	J. S. Rickards, Fort Lauderdale.	Duval.....	F. A. Hathaway, Jacksonville.
Calhoun.....	P. F. Fisher, Blountstown.	Escambia.....	A. S. Edwards, Pensacola.
Charlotte.....	W. E. Bell, Punta Gorda.	Flagler.....	D. B. Brown, Bunnell.
Citrus.....	Jesse Montague, Inverness.	Franklin.....	A. A. Core, Apalachicola.

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
<b>FLORIDA—contd.</b>		<b>GEORGIA—contd.</b>	
Gadsden.....	C. H. Gray, Quincy.	Clayton.....	W. L. Gilbert, Jonesboro.
Glades.....	M. S. Hayes, Moore Haven.	Clinch.....	J. O. Rodgers, Homerville.
Hamilton.....	W. W. Bradshaw, Jasper.	Cobb.....	Hugh Moore, Marietta.
Hardee.....	W. R. Gramling, Wauchula.	Coffee.....	J. Gordon Floyd, Douglas.
Hernando.....	L. D. Hathaway, Brooksville.	Colquitt.....	L. O. Rogers, Moultrie.
Highlands.....	I. C. M. Ellenberger, Sebring.	Columbia.....	J. S. Hardin, Harlem.
Hillsborough.....	J. E. Knight, Tampa.	Cook.....	J. C. Thomas, Adel.
Holmes.....	T. J. McDade, Bonifay.	Coweta.....	J. M. Starr, Newnan.
Jackson.....	C. W. Lockett, Marianna.	Crawford.....	J. F. Dickey, Musella.
Jefferson.....	W. M. Scruggs, Monticello.	Crisp.....	J. W. Bivins, Cordele.
La Fayette.....	J. W. Morgan, Mayo.	Dade.....	J. B. Dugan, Tranton.
Lake.....	D. H. Moore, Tavares.	Dawson.....	A. W. Vandiviere, Dawsonville.
Lee.....	J. D. McFerron, Fort Myers.	Decatur.....	Roland Bower, Bainbridge.
Leon.....	F. S. Hartsfield, Tallahassee.	Dekalb.....	R. E. Carroll, Decatur.
Levy.....	T. W. Price, Bronson.	Dodge.....	M. W. Harrell, Eastman.
Liberty.....	J. E. Roberts, Bristol.	Dooly.....	Paul I. Ellison, Vienna.
Madison.....	T. C. Simms, Madison.	Dougherty.....	S. R. DeJarnette, Albany.
Manatee.....	B. D. Gullett, Bradentown.	Douglas.....	G. T. McLarty, Douglasville.
Marion.....	H. G. Shealy, Ocala.	Early.....	F. B. Melton, Blakely.
Monroe.....	V. S. Lowe, Key West.	Echols.....	R. Y. Touchton, Statesville.
Nassau.....	O. T. Weaver, Fernandina.	Effingham.....	F. D. Seckinger, Guyton.
Oakalosa.....	G. W. Barrow, Crestview.	Elbert.....	T. J. Cleveland, Elberton.
Okechobee.....	W. R. Terrell, Okechobee.	Emanuel.....	R. E. Rountree, Swainsboro.
Orange.....	A. B. Johnson, Orlando.	Evans.....	Theodore Brewton, Claxton.
Oscola.....	C. E. Yowell, Kissimmee.	Fannin.....	F. L. Cochran, Bluff Ridge.
Palm Beach.....	Agnes Ballard, West Palm Beach.	Fayette.....	L. M. Lester, Fayetteville.
Pasco.....	E. B. O'Berry, Dade City.	Floyd.....	W. C. Rash, Roma.
Pinellas.....	R. S. Blanton, Clearwater.	Forsyth.....	A. B. Tollison, Cumming.
Polk.....	C. A. Parker, Bartow.	Franklin.....	J. W. Landrum, Carnersville.
Putnam.....	C. H. Price, Palatka.	Fulton.....	J. W. Simmons, Atlanta.
St. Johns.....	D. D. Corbett, St. Augustine.	Gilmer.....	F. E. Pettit, Elkhay.
St. Lucie.....	E. E. Smith, Fort Pierce.	Glascokk.....	E. B. Rogers, Gibson.
Santa Rosa.....	R. B. Hobbs, Milton.	Glynn.....	Chas. E. Dryden, Brunswick.
Sarasota.....	T. W. Yarbrough, Sarasota.	Gordon.....	W. L. Swain, Calhoun.
Seminole.....	T. W. Lawton, Sanford.	Grady.....	J. S. Weathers, Cairo.
Sumter.....	W. T. Eddins, Bushnell.	Greene.....	W. A. Purks, White Plains.
Suwannee.....	J. A. Holmes, Live Oak.	Gwinnett.....	H. D. Meriwether, Lawrenceville.
Taylor.....	W. T. Cash, Perry.	Habersham.....	C. W. Grant, Clarksville.
Union.....	O. L. Mizelle, Lake Butler.	Hall.....	J. D. Underwood, Gainesville.
Volusia.....	C. R. M. Sheppard, DeLand.	Hancock.....	C. W. Moran, Sparta.
Wakulla.....	Jacob C. Pigott, jr., Arran.	Haralson.....	John W. White, Buchanan.
Walton.....	J. J. Kennedy, De Funiak Springs.	Harris.....	Tom Wisdom, Chipley.
Washington.....	J. T. Hightower, Vernon.	Hart.....	W. B. Morris, Hartwell.
<b>GEORGIA.</b>		Heard.....	W. E. Denney, Franklin.
Appling.....	H. J. Parker, Baxley.	Henry.....	T. J. Horton, McDonough.
Atkinson.....	J. G. White, Pearson.	Houston.....	M. C. Mosley, Byron.
Bacon.....	G. A. Taylor, Alma.	Irwin.....	Philip Newberry, Ocilla.
Baker.....	C. W. Twitty, Elmodel.	Jackson.....	T. T. Benton, Jefferson.
Baldwin.....	P. N. Bivins, Milledgeville.	Jasper.....	W. D. Cornwell, Monticello.
Banks.....	W. B. Smith, Homer.	Jeff Davis.....	G. N. Yarbrough, Hazlehurst.
Barrow.....	J. B. Brookshire, Winder.	Jefferson.....	Paul Pressly, Louisville.
Bartow.....	J. W. Jackson, Cartersville.	Jenkins.....	W. V. Lanier, Millen.
Ben Hill.....	J. H. Bullard, Fitzgerald.	Johnson.....	L. L. Lillard, Wrightsville.
Berrien.....	W. G. Avera, Nashville.	Jones.....	E. W. Sammons, Gray.
Bibb.....	C. H. Bruce, Macon.	Lamar.....	Mattie Tyus, Barnesville.
Blackley.....	L. A. Whipple, Cochran.	Lanier.....	J. C. Williams, Milton.
Brantley.....	Everett Knox, Hickox.	Laurens.....	Z. Whitehurst, Dublin.
Brooks.....	J. J. Sizemore, Quitman.	Lee.....	S. J. Powell, Leesburg.
Bryan.....	H. G. Van Brackie, Pembroke.	Liberty.....	E. B. Way, Hinesville.
Bulloch.....	J. W. Davis, Statesboro.	Lincoln.....	T. L. Perryman, Lincolnton.
Burke.....	O. M. Gresham, Waynesboro.	Long.....	Wm. C. Patton, Ludowici.
Butts.....	Van Fletcher, Jackson.	Lowndes.....	M. L. Strong, Valdosta.
Calhoun.....	H. T. Singleton, Edison.	Lumpkin.....	C. Shultz, Dahlonega.
Camden.....	W. R. Smith, St. Marys.	McDuffie.....	M. W. Dunn, Thomson.
Campbell.....	M. D. Collins, Fairburn.	McIntosh.....	W. A. Branson, Darien.
Candler.....	M. H. Williams, Metter.	Macon.....	J. P. Nelson, Oglethorpe.
Carroll.....	V. D. Whitley, Carrollton.	Madison.....	R. C. David, Danielsville.
Catoosa.....	W. E. Bryan, Ringgold.	Marion.....	T. B. Rainey, Buena Vista.
Charlton.....	L. E. Maflard, Folkston.	Meriwether.....	W. S. Howell, Greenville.
Chatham.....	C. B. Gibson, Savannah.	Miller.....	N. L. Stapleton, Colquitt.
Chattahoochee.....	C. N. Howard, Cusseta.	Milton.....	J. R. Holway, Alpharetta.
Chattoga.....	S. E. Jones, Summerville.	Mitchell.....	J. R. Sloan, Camilla.
Cherokee.....	T. A. Doss, Canton.	Monroe.....	T. H. Phinaze, Forsyth.
Clarke.....	T. H. Dozier, Athens.	Montgomery.....	T. B. Conner, Mount Vernon.
Clay.....	C. T. Norton, Bluffton.	Morgan.....	W. C. Thompson, Madison.
		Murray.....	T. W. Colvard, Crandall.
		Muscogee.....	J. L. Bond, Columbus.

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
<b>GEORGIA—contd.</b>		<b>IDAHO—contd.</b>	
Newton.....	G. C. Adams, Covington.	Custer.....	Mrs. Florence G. Rowles, Challis.
Oconee.....	R. M. Nicholson, Watkinsville.	Elmore.....	Mrs. Pearl S. Barber, Mountain Home.
Oglethorpe.....	E. W. Martin, Arnoldsville.	Franklin.....	John Johnson, Preston.
Paulding.....	C. A. Roberts, Dallas.	Fremont.....	A. C. Lambert, St. Anthony.
Pickens.....	G. F. Compton, Jasper.	Gem.....	Mrs. Ella Reed, Emmett.
Pierce.....	J. S. Pittman, Blackshear.	Gooding.....	Miss Douglas Hiltz, Gooding.
Pike.....	F. L. Adams, Zebulon.	Idaho.....	Leonard Case, Grangeville.
Polk.....	Wm. James, Cedartown.	Jefferson.....	W. S. Burton, Rigby.
Pulaski.....	A. G. McKinney, Hawkinsville.	Jerome.....	Mrs. June L. Kearney, Jerome.
Putnam.....	W. C. Wright, Eatonton.	Kootenai.....	R. C. Eggers, Coeur d'Alene.
Quitman.....	H. M. Kaigler, Georgetown.	Latah.....	Lillian Skattaboe, Moscow.
Rabun.....	John C. Howard, Quartz.	Lemhi.....	Mrs. Ethel G. Watkins, Salmon.
Randolph.....	Walter McMichael, Cuthbert.	Lewis.....	Mrs. Norma Wilson Bettis, Nez Perce.
Richmond.....	Lawton B. Evans, Augusta.	Lincoln.....	Mrs. Leah M. Burnside, Shoshone.
Rockdale.....	G. W. Crumbley, Conyers.	Madison.....	Wm. B. Oldham, Rexburg.
Schley.....	J. F. Stewart, Ellaville.	Minidoka.....	Mrs. Ida E. Sullivan, Rupert.
Screven.....	H. J. Arnett, Sylva.	Nez Perce.....	Ethel Gilson, Lewiston.
Seminole.....	J. T. Goree, Donaldsonville.	Oneida.....	James C. Tovey, Malad.
Spalding.....	J. P. Manley, Griffin.	Owyhee.....	Mrs. Belle V. Cook, Silver City.
Stephens.....	Gordon Walters, Toccoa.	Payette.....	Anna Pearson, Payette.
Stewart.....	W. T. Halliday, Lumpkin.	Power.....	Goldie Drake, American Falls.
Sumter.....	E. W. Du Pree, Americus.	Shoshone.....	Mrs. Mary J. Barnes, Wallace.
Talbot.....	A. B. McNice, Talbotton.	Teton.....	L. M. Strong, Driggs.
Taliaferro.....	W. R. Moore, Sharon.	Twin Falls.....	Miss Brittomart Wolfe, Twin Falls.
Tattnall.....	J. O. Bacon, Reidsville.	Valley.....	Mrs. Tirza J. Wayland, Cascade.
Taylor.....	W. T. Rustin, Butler.	Washington.....	M. Gladys Houston, Weiser.
Telfair.....	B. J. Reid, McRae.		
Terrell.....	J. C. Dukes, Dawson.	<b>ILLINOIS.</b>	
Thomas.....	C. H. Rice, Thomasville.	Adams.....	John H. Steiner, Quincy.
Tift.....	A. J. Ammons, Tifton.	Alexander.....	Asa D. Twente, Cairo.
Toombs.....	T. B. Youmans, Vidalia.	Bond.....	J. W. Anthony, Greenville.
Towns.....	R. T. Coleman, Young Harris.	Boone.....	Elizabeth B. Harvey, Belvidere.
Treutlen.....	R. E. Ward, Soperton.		
Troup.....	T. G. Polhill, La Grange.	Brown.....	Lavina O'Neil, Mount Sterling.
Turner.....	D. A. Stewart, Ashburn.	Bureau.....	G. O. Smith, Princeton.
Twiggs.....	B. S. Fitzpatrick, Fitzpatrick.	Calhoun.....	S. J. Sibley, Hardin.
Union.....	J. W. Twiggs, Choctoe.	Carroll.....	John Hay, Mount Carroll.
Upson.....	J. A. Thurston, Thomaston.	Cass.....	Walter E. Buck, Virginia.
Walker.....	J. A. Sartain, La Fayette.	Champaign.....	Charles H. Watts, Urbana.
Walton.....	J. W. Clegg, Monroe.	Christian.....	O. P. Simpson, Taylorville.
Ware.....	C. W. Pittman, Waycross.	Clark.....	Harold Bright, Marshall.
Warren.....	M. J. Bruce, Norwood.	Clay.....	George W. Brewer, Louisville.
Washington.....	T. J. Davis, Sandersville.	Clinton.....	Wm. Johnston, Carlyle.
Wayne.....	B. D. Purcell, Jesup.	Coles.....	O. L. Minter, Charleston.
Webster.....	Cleveland Rees, Preston.	Cook.....	E. J. Tobin, Chicago (C. H.).
Wheeler.....	J. P. Tomlinson, Alamo.	Crawford.....	O. B. Mount, Robinson.
White.....	C. H. Edwards, Cleveland.	Cumberland.....	L. C. Markwell, Toledo.
Whitfield.....	J. D. Field, Dalton.	Dekalb.....	Warren Hubbard, Sycamore.
Wilcox.....	W. A. Stone, Pitts.	Dewitt.....	Roy H. Johnson, Clinton.
Wilkes.....	S. B. Savage, Washington.	Douglas.....	E. E. Gere, Tuscola.
Wilkinson.....	Victor Davidson, Irwinton.	Dupage.....	Lewis Morgan, Wheaton.
Worth.....	W. R. Sumner, Sylvester.	Edgar.....	O. Rice Jones, Paris.
		Edwards.....	Grant Balding, Albion.
		Efingham.....	J. W. Davis, Effingham.
		Fayette.....	F. E. Crawford, Vandalia.
		Ford.....	H. M. Rudolph, Paxton.
		Franklin.....	H. Clay Ing, Benton.
		Fulton.....	P. H. Hellyer, Lewistown.
		Gallatin.....	J. F. Ashley, Ridgway.
		Greene.....	Rollins L. Scott, Carrollton.
		Grundy.....	E. F. Booth, Morris.
		Hamilton.....	S. O. Dale, McLeansboro.
		Hancock.....	S. D. Faris, Carthage.
		Hardin.....	Hattie M. Rittenhouse, Ellettsbethtown.
		Henderson.....	Allen L. Beall, Oquawka.
		Henry.....	W. F. Huston, Cambridge.
		Iroquois.....	F. A. Glibreath, Watseka.
		Jackson.....	Otto F. Aken, Murphysboro.
<b>IDAHO.</b>			
Ada.....	Lura V. Paine, Boise.		
Adams.....	Mrs. Oriana M. Hubbard, Council.		
Bannock.....	Nora A. Boyum, Pocatello.		
Bear Lake.....	Letha Dunford, Paris.		
Benewah.....	Lella Clifford, St. Maries.		
Bingham.....	Mrs. Grace Faulconer, Blackfoot.		
Blaine.....	Boulah Coats, Hailey.		
Boise.....	Mrs. Halley Skinner, Idaho City.		
Bonner.....	Mrs. Jessie H. Tuck, Sandpoint.		
Bonneville.....	Jesse H. Nielsen, Idaho Falls.		
Boundary.....	Mrs. Caroline W. Flood, Bonners Ferry.		
Butte.....	Mrs. Louisa Pratt, Arco.		
Camas.....	Pearle H. Lamson, Fairfield.		
Canyon.....	Margaret Knowlton, Caldwell.		
Caribou.....	A. J. Gronewald, Soda Springs.		
Cassia.....	Mae Lowe, Burley.		
Clark.....	Mrs. Anna Hales, Dubois.		
Clearwater.....	Evelyn S. Mervin, Orofino.		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
ILLINOIS—contd.		INDIANA—contd.	
Jasper.....	J. H. Pursifull, Newton.	Cass.....	Ira A. Kessler, Logansport.
Jefferson.....	William Miner, Mount Vernon.	Clark.....	Sam'l. L. Scott, Jeffersonville.
Jersey.....	Joseph W. Becker, Jerseyville.	Clay.....	J. R. McCullough, Brazil.
Jo Daviess.....	B. L. Birkbeck, Galena.	Clinton.....	M. D. Boulden, Frankfort.
Johnson.....	E. Wilburn Sutton, Vienna.	Crawford.....	H. H. Pleasant, English.
Kane.....	E. M. Harris, Geneva.	Daviess.....	J. E. Gilley, Washington.
Kankakee.....	Lewis Ogilvie, Kankakee.	Dearborn.....	Geo. C. Cole, Lawrenceburg.
Kendall.....	George Elliot, Yorkville.	Decatur.....	James R. Crawley, Greensburg.
Knox.....	W. F. Boyes, Galesburg.		
Lake.....	T. A. Simpson, Waukegan.	Dekalb.....	Clarence Green, Auburn.
La Salle.....	W. R. Foster, Ottawa.	Delaware.....	Lee O. Baird, Muncie.
Lawrence.....	Ed. Ashbaugh, Lawrenceville.	Dubois.....	Robert E. Eckert, Jasper.
Lee.....	L. W. Miller, Dixon.	Elkhart.....	C. F. Miller, Goshen.
Livingston.....	W. W. McCulloch, Pontiac.	Fayette.....	Claude Trusler, Connersville.
Logan.....	E. H. Lukenbill, Lincoln.	Floyd.....	Glenn V. Scott, New Albany.
McDonough.....	B. E. Decker, Macomb.	Fountain.....	Guy A. Waldrup, Covington.
McHenry.....	A. M. Shelton, Crystal Lake.	Franklin.....	Michael A. Bossert, Brookville.
McLean.....	B. C. Moore, Bloomington.		
Macon.....	Everett L. Dickey, Decatur.	Fulton.....	Thomas F. Berry, Rochester.
Macoupin.....	George W. Solomon, Carlinville.	Gibson.....	Ben H. Watt, Princeton.
		Grant.....	Albert R. Hall, Marion.
Madison.....	H. T. McCrea, Edwardsville.	Greene.....	Walter T. Brown, Bloomfield.
Marion.....	Hattie M. Blair, Salem.	Hamilton.....	Walter Harger, Noblesville.
Marshall.....	Willard E. King, Lacon.	Hancock.....	R. R. Roudsbush, Greenfield.
Mason.....	John C. Stoddard, Havana.	Harrison.....	Jas. T. McClaren, Corydon.
Massac.....	Luther L. Evers, Metropolis.	Hendricks.....	Geo. H. Reitzel, Danville.
Menard.....	William Small, Petersburg.	Henry.....	H. B. Roberts, Newcastles.
Mercer.....	G. E. Platt, Aledo.	Howard.....	Albert F. Hutson, Kokomo.
Monroe.....	William C. Heyl, Waterloo.	Huntington.....	C. Funderburg, Huntington.
Montgomery.....	Everett A. Lewey, Hillsboro.	Jackson.....	Harry B. Henderson, Brownstown.
Morgan.....	H. H. Vasconcellos, Jacksonville.		
		Jasper.....	Morgan L. Sterrett, Rensselaer.
Moultrie.....	Mrs. L. L. Coombes, Sullivan.	Jay.....	Harry Nixon, Portland.
Ogle.....	J. E. Cross, Oregon.	Jefferson.....	W. Guy Pender, Madison.
Peoria.....	J. A. Hayes, Peoria.	Jennings.....	S. M. Whitcomb, Vernon.
Perry.....	R. B. Templeton, Pinckneyville.	Johnson.....	W. J. Yount, Franklin.
		Knox.....	W. W. Carter, Vincennes.
Platt.....	Chas. McIntosh, Monticello.	Kosciusko.....	Jesse Bruner, Warsaw.
Pike.....	Theo. C. Moore, Pittsfield.	Lagrange.....	Hilda Hughes, Lagrange.
Pope.....	Mrs. Stella A. Wierwille, Oolconda.	Lake.....	F. F. Heighway, Crown Point.
		Laporte.....	Clayton L. Rhoads, Laporte.
Pulaski.....	May S. Hawkins, Mound City.	Lawrence.....	Wm. C. Roberts, Bedford.
Putnam.....	Anna M. Holliday, Granville.	Madison.....	J. C. House, Anderson.
Randolph.....	L. W. Von Behren, Chester.	Marion.....	Lee E. Swails, Indianapolis.
Richland.....	Earl H. Hostettler, Olney.	Marshall.....	Louis E. Steinbach, Plymouth.
Rock Island.....	Justin Washburn, Rock Island.	Martin.....	R. V. Edgewell, Shoals.
Saline.....	B. D. Gates, Harrisburg.	Miami.....	E. L. Powell, Peru.
Sangamon.....	E. C. Pruitt, Springfield.	Monroe.....	W. H. Jones, Bloomington.
Schuyler.....	Calvin L. Cain, Rushville.	Montgomery.....	Merle F. Coons, Crawfordsville.
Scott.....	Olive Wells, Winchester.	Morgan.....	Isaac M. Kenworthy, Martinsville.
Shelby.....	Charles B. Guin, Shelbyville.		
Stark.....	G. C. Baker, Toulon.	Newton.....	W. O. Schanlaub, Kentland.
St. Clair.....	W. A. Hough, Belleville.	Noble.....	Guy R. Hall, Albion.
Stephenson.....	George W. Scott, Freeport.	Ohio.....	John L. Wessler, Rising Sun.
Tazewell.....	C. I. Martin, Pekin.	Orange.....	Harry Kirk, Paoli.
Union.....	Charles O. Ottrich, Jonesboro.	Owen.....	Albert Free, Spencer.
Vermillion.....	Otis P. Haworth, Danville.	Parke.....	John H. Jolliffe, Rockville.
Wabash.....	Elmer Greathouse, Mount Carmel.	Perry.....	Preston Harding, Cannelton.
		Pike.....	Howard Brenton, Glen.
Warren.....	Frank Winbiger, Monmouth.	Porter.....	Fred H. Cole, Valparaiso.
Washington.....	T. E. Allen, Nashville.	Posey.....	G. E. Behrens, Mount Vernon.
Wayne.....	J. B. Galbraith, Fairfield.	Pulaski.....	F. G. Noel, Winamac.
White.....	D. L. Boyd, Carmi.	Putnam.....	Frank Wallace, Greencastle.
Whiteside.....	H. B. Price, Morrison.	Randolph.....	O. H. Graist, Winchester.
Will.....	August Maue, Joliet.	Ripley.....	Hale C. Pickett, Versailles.
Williamson.....	J. W. McKinney, Marion.	Rush.....	W. E. Wagoner, Rushville.
Winnebago.....	Mrs. Abbie Jewett Craig, Rockford.	St. Joseph.....	John W. Rittinger, South Bend.
Woodford.....	Roy L. Moore, Eureka.	Scott.....	Clinton Gamble, Scottsburg.
INDIANA.		Shelby.....	W. Everson, Shelbyville.
Adams.....	E. S. Christen, Decatur.	Spencer.....	U. S. Lindsey, Rockport.
Allen.....	D. O. McComb, Fort Wayne.	Starke.....	J. Allan Barr, Knox.
Bartholomew.....	Samuel Sharp, Columbus.	Steuben.....	G. O. Simpson, Angola.
Benton.....	M. F. O'Rear, Fowler.	Sullivan.....	Richard Park, Sullivan.
Blackford.....	W. E. Pursley, Hartford City.	Switzerland.....	Ernest Dangiade, Vevay.
Boone.....	John H. Hussey, Lebanon.	Tippecanoe.....	C. V. Peterson, La Fayette.
Brown.....	Grover G. Brown, Nashville.	Tipton.....	George H. Spencer, Tipton.
Carroll.....	A. G. Fox, Delphi.	Union.....	Chas. C. Abernethy, Liberty.
		Vanderburg.....	K. W. Hemmer, Evansville.
		Vermillion.....	J. F. Lewman, Newport.

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
INDIANA—contd.		IOWA—continued.	
Vigo.....	Paul B. Williams, Terre Haute.	Mitchell.....	Blanche M. McLaughlin, Oeage.
Wabash.....	Howard Williams, Wabash.	Monona.....	Esther Troustrom, Onawa.
Warren.....	Harry Evans, Williamsport.	Monroe.....	Esther Roberts, Albion.
Warrick.....	Levi Barker, Boonville.	Montgomery.....	Hattie E. Hough, Red Oak.
Washington.....	Leon B. Mather, Salem.	Muscatine.....	E. D. Bradley, Muscatine.
Wayne.....	C. O. Williams, Richmond.	O'Brien.....	Bessie McNutt, Pringhar.
Wells.....	Justin H. Merriman, Bluffton.	Oseola.....	Mary E. De Boos, Sibley.
White.....	Kirby B. Payne, Monticello.	Page.....	Agnes Samuelson, Clarinda.
Whitley.....	R. E. Mosher, Columbia City.	Palo Alto.....	Gertrude M. Thornwell, Emmetsburg.
IOWA.		Plymouth.....	Agnes Eyres, Le Mars.
Adair.....	Minerva Whittum, Greenfield.	Pocahontas.....	Mrs. J. H. McMichael, Pocahontas.
Adams.....	Anna Lynam, Corning.	Polk.....	Mrs. A. H. Hoffman, Des Moines.
Allamakee.....	W. L. Peck, Waukon.	Pottawattamie.....	Charlotte Dryden, Council Bluffs.
Appanoose.....	Janet Wilson, Centerville.	Poweshiek.....	Estelle Coon, Brooklyn.
Audubon.....	Augusta Hecker, Audubon.	Ringgold.....	Louise Askren, Mount Ayr.
Benton.....	Emma R. Crossley, Vinton.	Sac.....	P. A. Lauterbach, Sac City.
Black Hawk.....	H. C. Moeller, Waterloo.	Scott.....	Hermine Schneckloth, Davenport.
Boone.....	Grace E. Tucker, Boone.	Shelby.....	Rose M. Parker, Harlan.
Bremer.....	Grace Beebe, Waverly.	Sioux.....	Charles H. Tye, Orange City.
Buchanan.....	A. E. Jewett, Independence.	Story.....	Maude Wakefield, Nevada.
Buena Vista.....	A. E. Harrison, Storm Lake.	Tama.....	Mary A. Richards, Toledo.
Butler.....	Hazel Black, Allison.	Taylor.....	Allie Nelson, Bedford.
Calhoun.....	Helen Wilson, Rockwell City.	Union.....	Mrs. Nancy Bell, Creston.
Carroll.....	George Galloway, Carroll.	Van Buren.....	H. B. Carroll, Keosauqua.
Cass.....	Myrtle R. Hardenbergh, Atlantic.	Wapello.....	Celia Bell, Ottumwa.
Cedar.....	Jane McCormick, Tipton.	Warren.....	W. M. McGee, Indianola.
Cerro Gordo.....	R. E. Newcomb, Mason City.	Washington.....	Clara Wallace, Washington.
Cherokee.....	Mrs. Hazel Jackson, Cherokee.	Wayne.....	Ava Amenell, Corydon.
Chickasaw.....	Alf Vaala, New Hampton.	Webster.....	Anna Johnson, Fort Dodge.
Clarke.....	Ora Griswell, Oseola.	Winnebago.....	Jessie Parker, Forest City.
Clay.....	Etsa M. Smith, Spencer.	Winneshiek.....	Gertrude Crane, Decorah.
Clayton.....	Margaret C. Myers, Elkader.	Woodbury.....	J. F. Barnes, Sioux City.
Clinton.....	C. E. Cozens, Clinton.	Worth.....	Nora M. King, Northwood.
Crawford.....	F. N. Olry, Denison.	Wright.....	Blanche Bock, Clarion.
Dallas.....	May A. Hills, Adel.	KANSAS.	
Davis.....	H. C. Brown, Bloomfield.	Allen.....	Florence H. Round, Iola.
Decatur.....	Kate Hull, Leon.	Anderson.....	Blanche McClun, Garnett.
Delaware.....	W. A. Otflie, Manchester.	Atchison.....	Ada Smith, Atchison.
Des Moines.....	Vail Cordell, Burlington.	Barber.....	Glenola Wilkins, Medicine Lodge.
Dickinson.....	Verna M. Gray, Spirit Lake.	Barton.....	M. V. Rinker, Great Bend.
Dubuque.....	Joseph Flynn, Dubuque.	Bourbon.....	May Hare, Fort Scott.
Emmet.....	Marie Sorum, Estherville.	Brown.....	L. C. Morgan, Hiawatha.
Fayette.....	N. J. Breckner, West Union.	Butler.....	C. W. Thomas, El Dorado.
Floyd.....	Mary D. Kornke, Charles City.	Chase.....	Clint A. Baldwin, Cottonwood Falls.
Franklin.....	Harry J. Henderson, Hampton.	Chautauqua.....	Flora Holroyd, Sedan.
Fremont.....	Wilbur Simons, Sidney.	Cherokee.....	G. A. Sanders, Columbus.
Greene.....	Mrs. Hazel Ott, Jefferson.	Cheyenne.....	Mrs. Edith Voeller, St. Francis.
Grundy.....	D. R. Earl, Grundy Center.	Clark.....	Maggie M. Myers, Ashland.
Guthrie.....	C. A. Young, Guthrie Center.	Clay.....	Mrs. Georgia F. Borland, Clay Center.
Hamilton.....	E. F. Snow, Webster City.	Cloud.....	Jane Collins, Concordia.
Hancock.....	J. R. Baggs, Garner.	Coffey.....	Mrs. Allie B. Smith, Burlington.
Hardin.....	Bessie Steinberg, Eldora.	Comanche.....	Ethel M. Smith, Coldwater.
Harrison.....	Alice Deibelss, Logan.	Cowley.....	Arka Shoemaker, Winfield.
Henry.....	Eva Allen, Mount Pleasant.	Crawford.....	J. W. Milley, Girard.
Howard.....	Vernette Moore, Cresco.	Decatur.....	Romaine Wyatt, Oberlin.
Humboldt.....	Clarence Messer, Humboldt.	Dickinson.....	Mary E. Woolverton, Abilene.
Ida.....	J. M. Rees, Jr., Ida Grove.	Doniphan.....	C. H. Hewins, Troy.
Iowa.....	Ida O'Brien, Marengo.	Douglas.....	O. J. Lane, Lawrence.
Jackson.....	E. R. Stoddard, Maquoketa.	Edwards.....	Mary Mullikin, Kinsley.
Jasper.....	Lucy E. Hall, Newton.	Elk.....	H. A. Gilmore, Howard.
Jefferson.....	June Chidester, Fairfield.	Ellis.....	Louis Christiansen, Hays.
Johnson.....	W. N. Leeper, Iowa City.	Ellsworth.....	H. Coover, Ellsworth.
Jones.....	Nellie V. Morey, Anamosa.	Finney.....	Emma F. Wilson, Garden City.
Kookuk.....	Harry S. McVicker, Sigourney.	Ford.....	Mrs. Edna L. Cobb, Dodge City.
Kossuth.....	Wm. Shurley, Algona.		
Lee.....	E. C. Lynn, Donnellson.		
Linn.....	Lula B. Secrist, Marion.		
Louisa.....	Myrtle Jamison, Wapello.		
Lucas.....	I. S. Guernsey, Chariton.		
Lyon.....	E. T. Gilman, Rock Rapids.		
Madison.....	Lina Dudney, Winterset.		
Mahaska.....	Erma Krout, Oskaloosa.		
Marion.....	Avis Graive, Knoxville.		
Marshall.....	C. E. Shutt, Marshalltown.		
Mill.....	Geo. E. Masters, Glenwood.		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
<b>KANSAS—contd.</b>		<b>KANSAS—contd.</b>	
Franklin.....	Ellen Larson, Ottawa.	Trego.....	Elizabeth McCall, Wakeeney.
Geary.....	Mrs. Nora R. Clark, Junction City.	Wabaunsee.....	M. O. Wright, Alma.
Gove.....	John Lindquist, Gove.	Wallace.....	Mrs. Emma Sears, Sharon Springs.
Graham.....	Le Roy Mowrey, Hill City.	Washington.....	Luella Hill, Washington.
Grant.....	Mrs. Gladys Hennigh, New Ulysses.	Wichita.....	Ethel Whitechurch, Leoti.
Gray.....	Vera Furse, Cimarron.	Wilson.....	Mrs. Fannie Lyon, Fredonia.
Groecley.....	G. W. Lowrey, Tribune.	Woodson.....	Oecle Davidson, Yates Center.
Greenwood.....	Ralph A. Cannon, Eureka.	Wyandotte.....	Olive I. Thompson, Kansas City.
Hamilton.....	Mrs. Elizabeth Tapscott, Syracuse.		
Harper.....	Mrs. Lulu Carithers, Anthony.	<b>KENTUCKY.</b>	
Harvey.....	Mary J. Morrison, Newton.	Adair.....	Noah Loy, Columbia.
Haskell.....	George B. Levitt, Sublette.	Allen.....	N. S. Shaw, Scottsville.
Hodgeman.....	Winifred T. Goller, Jetmore.	Anderson.....	T. J. Leathers, Lawrenceburg.
Jackson.....	F. R. Palmer, Holtan.	Ballard.....	W. A. Anderson, Wickliffe.
Jefferson.....	May Ninceheler, Oskaloosa.	Barren.....	W. M. Totty, Glasgow.
Jewell.....	Lawrence Dial, Mankato.	Bath.....	R. W. Kincaid, Owingsville.
Johnson.....	Lucile Ewing, Olathe.	Bell.....	Mary A. Helton, Pineville.
Kearny.....	Mrs. India Simmons, Lakin.	Boone.....	J. C. Gordon, Burlington.
Kingman.....	Mrs. Maud S. Branden, Kingman.	Bourbon.....	J. B. Caywood, Paris.
Kiowa.....	Mrs. Ava Hayes, Greensburg.	Boyd.....	B. B. Triplett, Catlettsburg.
Labette.....	Mrs. Eva E. Cruzan, Oswego.	Boyle.....	Oscar B. Fallis, Danville.
Lane.....	Alma Jasper, Dighton.	Bracken.....	Nannie Hancock, Brooksville.
Leavenworth.....	Eph Voorhees, Leavenworth.	Breathitt.....	Fallen Campbell, Jackson.
Lincoln.....	Ella Miller, Lincoln.	Breckinridge.....	J. Raleigh Meader, Hardinsburg.
Linn.....	M. Ellen Dingus, Mound City.	Bullitt.....	Ora L. Roby, Shepherdsville.
Logan.....	Mrs. Eunice G. Garrity, Russell Springs.	Butler.....	C. E. Gary, Morgantown.
Lyon.....	Timon Covert, Emporia.	Caldwell.....	H. W. Nichols, Princeton.
McPherson.....	Hattie Heckethorne, McPherson.	Calloway.....	R. E. Broach, Murray.
Marion.....	James A. Ray, Marion.	Campbell.....	J. W. Reiley, Alexandria.
Marshall.....	Mrs. Etta B. Beavers, Marysville.	Carlisle.....	N. J. Parsons, Bardwell.
Meade.....	Ola Granger, Meade.	Clay.....	Clay Tharp, Carrollton.
Miami.....	Emma Mills, Paola.	Carter.....	Leila B. Wilcox, Grayson.
Mitchell.....	A. R. Loop, Beloit.	Casey.....	E. L. Cundiff, Liberty.
Montgomery.....	Nora C. Howard, Independence.	Christian.....	L. E. Foster, Hopkinsville.
Morris.....	Mrs. Flora E. Davis, Council Grove.	Clark.....	Nancy Stevenson, Winchester.
Morton.....	Mrs. H. O. Bean, Richfield.	Clay.....	Davis M. Allen, Manchester.
Nemaha.....	R. G. Mueller, Seneca.	Clinton.....	J. O. Cole, Albany.
Neosho.....	Susie Berry, Erie.	Crittenden.....	James L. F. Paris, Marion.
Ness.....	Edna Robison, Ness City.	Cumberland.....	Cora S. Payne, Burkesville.
Norton.....	Mrs. Myrtle Newbold, Norton.	Davies.....	John L. Graham, Owensboro.
Osage.....	Annie Daniel, Lyndon.	Edmonson.....	W. A. Pardue, Brownsville.
Osborne.....	Bertha Yoxall, Osborne.	Elliott.....	Wales S. Brown, Sandy Hook.
Ottawa.....	Lilias Mortimer, Minneapolis.	Estill.....	E. S. Land, Irvine.
Pawnee.....	Elizabeth Davis, Larned.	Fayette.....	Geo. M. Baker, Lexington.
Phillips.....	H. F. Bradley, Phillipsburg.	Fleming.....	M. N. Evans, Flemingsburg.
Pottawatomie.....	Mrs. Kate E. Hooven, Westmoreland.	Floyd.....	H. N. Cooley, Prestonburg.
		Franklin.....	L. D. Stucker, Frankfort.
		Fulton.....	Inez Luten, Hickman.
		Gallatin.....	Rosa B. Wood, Warsaw.
		Garrard.....	Jennie Higgins, Lancaster.
		Grant.....	B. N. Harrison, Williamstown.
		Graves.....	J. E. Coleman, Mayfield.
		Grayson.....	Effie Sadler Basham, Leitchfield.
		Green.....	Myrtle F. Howard, Greensburg.
		Greenup.....	J. Howard Hatfield, Greenup.
		Hancock.....	J. H. Lamb, Hawesville.
		Hardin.....	J. A. Payne, Elizabethtown.
		Harlan.....	A. C. Jones, Harlan.
		Harrison.....	B. F. Kearns, Cynthiana.
		Hart.....	Mrs. Annie Turner, Mumfordsville.
		Henderson.....	E. B. Liles, Henderson.
		Henry.....	Hallie Ellis Pope, Newcastle.
		Hickman.....	J. W. Brinkley, Clinton.
		Hopkins.....	L. R. Ray, Madisonville.
		Jackson.....	H. F. Minter, McKee.
		Jefferson.....	Orville J. Stivers, Louisville.
		Jessamine.....	C. C. Sandusky, Nicholasville.
		Johnson.....	Fred Meade, Faintsville.
		Kenton.....	J. C. Mills, Erlanger.
		Knott.....	Adam Campbell, Hindman.
		Knox.....	E. B. Hemphill, Harboursville.
		Larue.....	Sara Castelman McConnell, Hodgenville.
Thomas.....	Lulu Holmes, Colby.		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
<b>KENTUCKY—CON.</b>		<b>KENTUCKY—CON.</b>	
Laurel.....	D. B. Johnson, London.	Nelson.....	W. T. McClain, Bardstown.
Lawrence.....	J. H. Ekers, Louisa.	Nicholas.....	Eda S. Taylor, Carlisle.
Lee.....	J. P. Thomas, Beattyville.	Ohio.....	E. S. Howard, Hartford.
Leslie.....	Mary H. Feltner, Hyden.	Oldham.....	J. W. Selph, La Grange.
Letcher.....	E. B. Hale, Whitesburg.	Owen.....	Mrs. Clara A. Jones, Owenton.
Lewis.....	J. Q. Adams, Vanceburg.	Owsley.....	A. J. Creech, Booneville.
Lincoln.....	Garland Singleton, Stanford.	Pendleton.....	John E. Drake, Falmouth.
Livingston.....	Mamie Y. Ferguson, Smithland.	Perry.....	M. C. Napier, Hazard.
Logan.....	R. N. Beauchamp, Russellville.	Pike.....	Fonso Wright, Pikeville.
Lyon.....	N. G. Martin, Eddyville.	Powell.....	Maude S. Bowen, Stanton.
Madison.....	Ben F. Edwards, Richmond.	Pulaski.....	Leonard E. Meece, Somerset.
Magoffin.....	J. S. Adams, Salyersville.	Robertson.....	Cleveland Moore, Mount Olivet.
Marion.....	J. W. Clarkson, Lebanon.	Rockcastle.....	Alice Davis, Mount Vernon.
Marshall.....	Harry W. Peters, Benton.	Rowan.....	J. H. Powers, Morehead.
Martin.....	U. G. Johnson, Inez.	Russell.....	B. A. Lawless, Jamestown.
Mason.....	G. H. Turnipseed, Maysville.	Scott.....	Mary Bradley, Georgetown.
McCracken.....	M. V. Miller, Paducah.	Shelby.....	Mrs. M. L. Hall, Shelbyville.
McCreary.....	J. L. Harmon, Whitley City.	Simpson.....	Alice Adams, Franklin.
McLean.....	R. A. Stroud, Calhoun.	Spencer.....	Katie B. Beauchamp, Taylorsville.
Meade.....	L. H. Powell, Brandenburg.	Taylor.....	Geo. E. Sapp, Campbellsville.
Menifee.....	W. O. Back, Frenchburg.	Todd.....	H. G. Watson, Elkton.
Mercer.....	Ora L. Adams, Harrodsburg.	Trigg.....	Levi Cunningham, Cadiz.
Metcalf.....	Avery Sartin, Edmondton.	Trimble.....	Carrie Logan Hood, Bedford.
Monroe.....	Mrs. Ella Braswell, Tompkinsville.	Union.....	G. W. Curry, Morganfield.
Montgomery.....	Georgie V. Sledd, Mount Sterling.	Warren.....	W. P. White, Bowling Green.
Morgan.....	Bernard E. Whitt, West Liberty.	Washington.....	Simpson Roberts, Springfield.
Muhlenburg.....	M. C. Hughes, Greenville.	Wayne.....	Hattie Denney, Monticello.
		Webster.....	Thos. W. Johnson, Dixon.
		Whitley.....	Samuel Walker, Williamsburg.
		Wolfe.....	Taylor Shockey, Campton.
		Woodford.....	M. B. Hifner, Versailles.
Parish.	Parish superintendent.	Parish.	Parish superintendent.
<b>LOUISIANA.</b>		<b>LOUISIANA—CON.</b>	
Acadia.....	J. M. Baker, Crowley.	Madison.....	J. R. Linton, Tallulah.
Allen.....	R. G. Corkern, Oberlin.	Morehouse.....	S. A. Caldwell, Bastrop.
Ascension.....	H. P. Broussard, Donaldsonville.	Natchitoches.....	C. E. Hooper, Natchitoches.
Assumption.....	S. A. Alleman, Napoleonville.	Orleans.....	J. M. Gwinn, New Orleans.
Aveyelles.....	C. E. Laborde, Marksville.	Ouachita.....	T. O. Brown, Monroe.
Beauregard.....	D. G. Lunsford, De Ridder.	Plaquemines.....	A. L. Pourciau, Pointe a la Hache.
Bienville.....	E. H. Fisher, Arcadia.	Pointe Coupee.....	Alonzo McFarland, New Roads.
Bossier.....	R. V. Kerr, Benton.	Rapides.....	W. J. Avery, Alexandria.
Caddo.....	C. E. Byrd, Shreveport.	Red River.....	A. H. Horton, Coushatta.
Calcasieu.....	F. K. White, Lake Charles.	Richland.....	E. E. Keebler, Rayville.
Caldwell.....	E. B. Cottingham, Columbia.	Sabine.....	G. C. Reeves, Many.
Cameron.....	T. W. McCall, Grand Chenier.	St. Bernard.....	Clement Story, St. Bernard.
Catahoula.....	H. W. Wright, Jonesville.	St. Charles.....	J. B. Martin, Hahnville.
Claiborne.....	John S. Patton, Homer.	St. Helena.....	Chas. W. Price, Greensburg.
Concordia.....	D. C. Strickler, Vidalia.	St. James.....	J. N. Gourdain, Convent.
De Soto.....	G. O. Houston, Mansfield.	St. John the Baptist.....	L. F. Laurent, Edgard.
East Baton Rouge.....	W. B. Hatcher, Baton Rouge.	St. Landry.....	W. B. Prescott, Opelousas.
East Carroll.....	Ashley Warlick, Lake Providence.	St. Martin.....	W. C. Perrault, St. Martinville.
East Feliciana.....	E. R. Waller, Clinton.	St. Mary.....	L. A. Law, Franklin.
Evangeline.....	Y. L. Fontanot, Ville Platte.	St. Tammany.....	E. E. Lyon, Covington.
Franklin.....	J. L. McDuff, Winnboro.	Tangipahoa.....	W. A. Sisemore, Amite.
Grant.....	L. B. Coburn, Colfax.	Tensas.....	C. L. Barrow, St. Joseph.
Iberia.....	J. G. Porter, New Iberia.	Terrebonne.....	H. L. Bourgeois, Houma.
Iberville.....	L. E. Messick, Plaquemine.	Union.....	J. N. Warner, Farmerville.
Jackson.....	Geo. A. Odom, Jonesboro.	Vermilion.....	J. H. Williams, Abbeville.
Jefferson.....	J. C. Ellis, Gretna.	Vernon.....	Finly Stanly, Leesville.
Jefferson Davis.....	W. P. Arnette, Jennings.	Washington.....	D. H. Stringfield, Franklinton.
Lafayette.....	A. W. Bittle, Lafayette.	Webster.....	E. S. Richardson, Minden.
Lalourche.....	W. S. Lafarge, Thibodaux.	West Baton Rouge.....	J. H. Bres, Port Allen.
La Salle.....	W. T. Hodges, Jena.	West Carroll.....	W. S. Campbell, Oak Grove.
Lincoln.....	H. L. Campbell, Ruston.	West Feliciana.....	P. C. Garris, St. Francisville.
Livingston.....	E. S. Easterly, Denham Springs.	Winn.....	A. L. Allen, Winnfield.



## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

Towns in union.	Union superintendent.	Towns in union.	Union superintendent.
<b>MAINE.</b>		<b>MAINE—contd.</b>	
Abbot, Blanchard, Ellsworth Pl., Kingsbury Pl., Monson, Willimantic.	Claude L. Sidelinger, Monson.	Bancroft, Drew Pl., Glenwood Pl., Haynesville, Kingman, Macwahoc Pl., Reed Pl.	C. S. Hulbert, Wytopitlock.
Acton, Lebanon, Newfield, Shapleigh.	George M. D. Grant, East Lebanon.	Bar Harbor, Trenton.	Frank McGouckrick, Bar Harbor.
Addison, Centerville, Jonesboro, Jonesport.	Ralph W. Brown, Jonesport.	Barnard Pl., Brownville, Lake View Pl., Milo, Williamsburg.	W. H. Sturtevant, Milo.
Albany, Lovell, Stoneham, Sweden.	W. H. Edminster, South Stoneham.	Bath, West Bath.	C. L. Smith, Bath.
Albion, Burnham, Troy, Unity, Unity Pl.	Mrs. Naomi T. Gregoire, Unity.	Beddington, Cherryfield, Columbia Falls, Deblols, Steuben.	Mrs. Frances C. Jewett, Cherryfield.
Alexander, Codyville Pl., Crawford, Grand Lake Str. Pl., No. 21 Pl. (Wash.), Princeton, Talmadge, Waite, Topsfield.	George H. Beard, Princeton.	Belfast, Bearsport, Belgrade, Fayette, Mount Vernon, Readfield.	E. E. Roderick, Belfast.
Alfred, Limerick, Lyman, Waterboro.	M. E. Wright, Alfred.	Belmont, Lincolnville, Morrill, Northport, Searsmont.	Ralph G. Oakes, Readfield.
Allagash Pl., Fort Kent, St. Francis Pl., St. John Pl.	Catherine Ouellette, Fort Kent.	Benedicts, Hersey, Mount Chase, Patten, Stacyville Pl.	Mrs. Lena Rankin, Lincolnville.
Alna, Dresden, Edgecomb, Pittston, Wiscasset.	Leslie A. Bailey, Dresden Mills.	Benton, Fairfield.	Mrs. Lucy P. Leach, Patten.
Alton, Argyle, Lagrange, Medford, Orneville.	E. E. Harris, Lagrange.	Berwick, Elliot, South Berwick.	M. C. Joy, Fairfield.
Amherst, Aurora, Clifton, Maria-ville, No. 21 Pl., No. 33 Pl., Otis, Waltham.	Mrs. Carolyn Orcutt, Amherst.	Bethel, Gilead, Greenwood, Mason.	W. C. MoCue, Berwick.
Amity, Cary Pl., Hodgdon, Linneus, New Limerick.	W. E. Finch, Hodgdon.	Bigelow Pl., Coplin Pl., Dead River Pl., Eustis, Flagstaff Pl., Lang Pl.	F. E. Russell, Bethel.
Andover, Byron, Mexico, Roxbury.	Russell Morgrage, Ridgionville.	Blaine, Bridge-water, E. Plan-tation, Mars Hill, Monticello.	C. W. Dickey, Stratton.
Anson, Bingham, Embden, Solon.	Mrs. L. A. Bradbury, North Anson.	Bluehill, Brooklin, Sedgwick.	Fred C. English, Robinson.
Appleton, Liberty, Palermo, Wash-ington.	Albert F. Barnes, Appleton.	Boothbay, Booth-bay Harbor, Monhegan Pl., Southport.	E. L. Linscott, Bluehill.
Arrowsic, George-town, Phipps-burg, Westport, Woolwich.	Mrs. Clara M. Reed, Wool-wich.	Bowdoin, Bow-doinham, Rich-mond.	Elmer C. Vining, Boothbay Harbor.
Ashland, Garfield Pl., Masardis, Nashville Pl., Oxbow Pl., Portage Lake.	W. G. Hoyt, Ashland.	Bowbank, Dover, Foxcroft, Sebec.	Chas. A. Snow, Richmond.
Athens, Brighton Pl., Cambridge, Cornville, Har-mony.	E. A. Pattes, Harmony.	Bradley, Green-bush, Greenfield, Milford, Passa-dumkeag.	Wm. M. Bottomley, Foxcroft.
Atkinson, Brad-ford, Charleston, Corinth, Ken-duskeag.	H. D. Ridlon, Charleston.	Bremen, Jefferson, Nobleboro, Wal-doboro.	Mrs. Gertrude E. Gifford, Ohamon.
Avon, Freeman, Phillips, Salem, Strong.	A. L. Shorey, Phillips.	Brewer, Edding-ton, Holden, Veazie.	V. V. Thompson, Waldoboro.
Balleville, Bar-ling, Calais.	W. H. Phinney, Calais.	Bridgton, Harri-son, Naples.	F. W. Burrill, Brewer.
Baldwin, Hiram, Sebago.	Mrs. Celia H. Sanborn, East Hiram.	Bristol, Damaris-scotta, Newcas-tle, South Bris-tol.	Guy Monk, Bridgton.
		Brooks, Jackson, Monroe, Swan-ville, Waldo.	Julia E. Barker, Damariscotta.
		Brooksville, Cas-tine, Islesboro, Penobscot.	L. T. Dunham, Brooks.
			D. W. Rollins, Castine.

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

Towns in union.	Union superintendent.	Towns in union.	Union superintendent.
<b>MAINE—contd.</b>		<b>MAINE—contd.</b>	
Brookton, Danforth, Forest City, Orient, Vanceboro, Weston.	D. H. Corson, Danforth.	Cranberry Isles, Mount Desert, South-west Harbor, Tremont.	W. E. Clark, South-west Harbor.
Brownfield, Denmark, Fryeburg, Stow.	C. L. Clement, Fryeburg.	Criehaven Pl., Matineus Isle Pl., Union, Warren.	F. D. Rowe, Warren.
Brunswick, Topsham.	John A. Cone, Brunswick.	Crystal, Island Falls, Sherman, Silver Ridge Pl.	H. A. McLellan, Island Falls.
Buckfield, Hartford, Hebron, Sumner.	Leon E. Cash, Buckfield.	Cumberland, Falmouth, North Yarmouth.	D. W. Lunt, Portland, R. 4.
Bucksport, Orland, Orrington, Verona.	Abbie M. Buck, Orland.	Cushing, Friendship, St. George, South Thomaston.	Edw. M. Tucker, Tenants Harbor.
Burlington, Edinburg, Enfield, Grand Falls Pl., Howland, Lowell, Maxfield, Sebastic Pl.	Ralph Nowland, Howland.	Cutler, Lubec, Trescott, Whiting.	Everett Higgins, Lubec.
Buxton, Holms, Standish.	Geo. E. Jack, Hollis Center.	Cyr Pl., Hamlin Pl., Van Buren.	C. L. O'Connell, Van Buren.
Camden, Hope, Thomaston.	George E. Paine, Camden.	Dallas Pl., Madrid, Rangeley, Rangeley Pl., Sandy River Pl.	Mrs. Harriet Fenderson, Rangeley.
Canaan, Clinton, Pittsfield.	T. W. McQuaide, Pittsfield.	Dayton, North Kennebec, Portland, Saco.	T. T. Young, Saco.
Canton, Livermore, Cape Elizabeth, South Portland.	F. H. Bate, Canton. Simon M. Hamlin, South Portland.	Dedham, Ellsworth, Surry.	H. E. Henry, Ellsworth.
Caratunk Pl., Concord, Mayfield Pl., Moscow, Pleasant Ridge Pl., The Forks Pl., West Forks Pl.	Charles E. Ball, Bingham.	Deer Isle, Isle au Haut, Stonington.	C. E. Lord, Deer Isle.
Caribou, Limestone.	C. A. Grant, Caribou.	Dennistown Pl., Greenville, Jackman Pl., Long Pond Pl., Moose River Pl., Shirley.	Russell S. Taylor, Greenville.
Carmel, Dixmont, Etna, Newburg.	John Paton, Carmel.	Dexter, Garland, Ripley.	Jas. A. Hamlin, Dexter.
Carroll, Lakeville Pl., Lee, Prentiss, Springfield, Webster Pl.	H. E. Fortier, Springfield.	Durham, Lisbon, Webster.	A. R. Carter, Lisbon Falls.
Carthage, Dixfield, Ferris, Weld.	H. W. Coburn, Dixfield.	Dyer Brook, Ludlow, Merrill, Moro Pl., Oakfield, Smyrna.	W. E. Lane, Smyrna Mills.
Casco, Otisfield, Raymond.	Howard Gilpatrick, Casco.	Eagle Lake, New Canada Pl., Wallagrass Pl., Winterville Pl.	Emma L'Inette, Eagle Lake.
Castle Hill, Chapman, Mapleton.	Elmer H. Webber, Mapleton.	Eastbrook, Franklin, Hancock, Lamoine.	S. S. Scammon, Franklin.
Charlotte, Cooper, Dennyville, Edmunds, Marion, Meddybemps, No. 14 Pl., Pembroke.	J. B. Thompson, West Pembroke.	East Livermore, Wayne.	E. R. Bowdoin, Livermore Falls.
Chelsea, Somerville, Whitefield, Windsor.	Mrs. Lila N. Leavitt, Coopers Mills.	East Machias, Machias, Machiasport, Marshfield, Northfield, Roque Bluffs, Whitneville.	R. L. Sinclair, Machias.
Chester, Lincoln, Mattawamkeag, Winn, Woodville.	Charles Swan, Mattawamkeag.	East Millinocket, Medway, Millinocket.	W. M. Marr, Millinocket.
Chesterville, Industry, New Sharon, Vienna.	S. T. Marshall, New Sharon.	Easton, Fort Fairfield.	C. E. Glover, Fort Fairfield.
China, Vassalboro, Winslow.	E. L. Toner, North Vassalboro.	Eastport, Perry, Robbinston.	Mrs. Eunice M. Beale, Eastport.
Columbia, Harrington, Milbridge.	Ray Robinson, Harrington.	Exeter, Glenburn, Hudson, Levant, Stetson.	Erl Worcester, Kenduskeag.
Corinna, Detroit, Newport, Plymouth.	Clifton E. Wass, Newport.	Farmington, Gardiner, Randolph.	L. W. Gerrish, Gardiner.
Cornish, Limington, Parsonsfield, Porter.	Annie L. Swasey, Cornish.	Farmington, New Vineyard, Temple.	Wm. C. Webster, Farmington.

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

Towns in union.	Union superintendent.	Towns in union.	Union superintendent.
<b>MAINE—contd.</b>		<b>MAINE—contd.</b>	
Frankfort, Prospect, Stockton Springs, Winterport.	Frederick Nickerson, Frankfort.	Jay, Wilton.....	H. B. Houston, North Jay.
Freedom, Knox, Montville, Thorndike.	D. H. Mathieson, Liberty.	Kennebunk, Kennebunkport.	M. T. Goodrich, Kennebunk.
Freeport, Pownal, Yarmouth.	Frank H. Byram, Yarmouthville.	Lincoln Pl., Magalloway Pl., Newry, Upton.	Mrs. Hazel Linnell, Upton.
Frenchville, Grand Isle, Madawaska, St. Agatha.	B. S. Dufour, St. Agatha.	Litchfield, Monmouth, Wales, West Gardiner.	Everett Peacock, Litchfield.
Gouldsboro, Sorrento, Sullivan, Winter Harbor.	Elmer B. Eddy, West Gouldsboro.	Long Island Pl., North Haven, Swans Island, Vinalhaven.	Edward A. Smalley, Vinalhaven.
Gray, New Gloucester, Windham.	C. E. Varney, Gray.	Mechanic Falls, Minot, Poland.	Mrs. Harriet M. Spiller, Mechanic Falls.
Greene, Leeds, Turner.	R. W. Blaisdell, Turner Center.	Mercer, Norridgewock, Smithfield, Starks.	Ed. A. Simoneau, Norridgewock.
Guilford, Parkman, Sangerville, Wellington.	Walter J. Rideout, Guilford.	New Sweden, Stockholm, Westmanland Pl., Woodland.	Elfrida Neilander, Caribou, R. F. D. No. 4.
Hallowell, Manchester, Winthrop.	W. F. Packard, Winthrop.	North Berwick, Wells.	C. A. Rush, North Berwick.
Hammond Pl., Houlton, Littleton.	T. P. Packard, Houlton.	Norway, Oxford, Watford.	W. E. Stuart, Norway.
Hampden, Hermon.	C. H. Grant, Hermon.	Oakland, Rome, Sidney.	John S. Tapley, Oakland.
Hanover, Milton Pl., Rumford.	L. E. Williams, Rumford.	Old Orchard, Scarborough.	F. H. B. Heald, South Portland, R. 6.
Hartland, Palmyra, St. Albans.	H. B. Clifford, Hartland.	Paris, Woodstock.	A. B. Carcelon, South Paris.
Highland Pl., Kingfield, Lexington Pl., New Portland.	C. J. Dunlap, Kingfield.	Perham, Wade, Washburn.	George M. Carter, Washburn.
		Presque Isle, Westfield.	Harry Rollins, Presque Isle.
		Rockland, Rockport.	Harry C. Hull, Rockland.

County.	County superintendent.	County.	County superintendent.
<b>MARYLAND.</b>		<b>MARYLAND—con.</b>	
Allegany.....	Edward F. Webb, Cumberland.	Howard.....	W. C. Phillips, Ellicott City.
Anne Arundel.....	George Fox, Annapolis.	Kent.....	Edward J. Clarke, Chestertown.
Baltimore.....	Clarence G. Cooper, Towson.	Montgomery.....	Edwin W. Broome, Rockville.
Calvert.....	Howard T. Ruhl, Prince Frederick.	Prince Georges.....	Nicholas Orem, Upper Marlboro.
Caroline.....	E. M. Noble, Denton.	Queen Annes.....	T. G. Bennett, Centerville.
Carroll.....	M. S. H. Unger, Westminster.	St. Marys.....	G. W. Joy, Leonardtown.
Cecil.....	Hugh W. Caldwell, Elkton.	Somerset.....	Wm. H. Dashiell, Princess Anne.
Charles.....	F. Bernard Gwynn, La Plata.	Talbot.....	Oscar M. Fogle, Easton.
Dorchester.....	J. B. Noble, Cambridge.	Washington.....	B. J. Grimes, Hagerstown.
Frederick.....	G. Lloyd Palmer, Frederick.	Wicomico.....	James M. Bennett, Salisbury.
Garrett.....	F. E. Rathbun, Oakland.	Worcester.....	E. W. McMaster, Snow Hill.
Harford.....	C. Milton Wright, Bel Air.		

Towns in union.	Union superintendent.	Towns in union.	Union superintendent.
<b>MASSACHUSETTS.</b>		<b>MASSACHUSETTS—continued.</b>	
Acton, Carlisle, Littleton, Westford.	Herman C. Knight, Littleton.	Amherst, Pelham, Ashburnham, Winchendon.	Jason O. Cook, Amherst.
Acushnet, Fairhaven, Marion, Mattapoisett.	Charles F. Prior, Fairhaven.	Ashby, Lunenburg, Townsend.	Austin E. Paull, Winchendon.
Agawam, Ludlow.	Walter E. Gushee, Ludlow.	Ashfield, Cummington, Goshen, Plainfield.	John Bacon, Townsend.
Alford, Egremont, Richmond, West Stockbridge.	Theodore F. Cooke, Richmond.		Millard C. Moore, Ashfield.

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

Towns in union.	Union superintendent.	Towns in union.	Union superintendent.
<b>MASSACHUSETTS— contd.</b>		<b>MASSACHUSETTS— contd.</b>	
Ashland, Hopkinton.	Warren B. Lyman, Hopkinton.	Conway, Deerfield, Sunderland, Whately.	Andrew S. Thomson, South Deerfield.
Auburn, Sutton.	Henry H. Pratt, 1232 Main Street, Worcester.	Dana, Greenwich, New Salem, Prescott.	Arthur W. Smith, North Dana.
Avon, Holbrook, Randolph.	Adolph C. Christiansen, Holbrook.	Douglas, Uxbridge.	C. L. Judkins, Uxbridge.
Ayer, Boxborough, Shirley.	Frank C. Johnson, Ayer.	Dover, Sudbury, Wayland.	Frank H. Benedict, Cochituate.
Barre, Hardwick, Petersham.	Merle A. Sturtevant, Barre.	Dracut, North Reading, Tewksbury, Tyngsboro.	Charles L. Randall, 97 Eighth Street, Lowell.
Becket, Chester, Middlefield.	William E. Hebard, Chester.	Dudley, Webster.	William F. Sims, Webster.
Bedford.	Arthur B. Webber, Bedford.	Duxbury, Marshfield, Scituate.	Frederick E. Bragdon, North Scituate.
Belchertown, Enfield.	Alvin R. Lewis, Belchertown.	Easthampton, Southampton, Westhampton.	William D. Miller, Easthampton.
Bellingham, Hopedale, Mendon.	Carroll H. Drown, Hopedale.	East Longmeadow, Hampden, Longmeadow, Wilbraham.	Frederic A. Wheeler, East Longmeadow.
Berkley, Dighton, Rehoboth.	Walter K. Putney, North Dighton.	Erving, Leverett, Shutesbury, Wendell.	Mrs. Cora A. Stearns, Millers Falls.
Berlin, Northboro, Southboro.	Frederick B. Van Ornum, Northboro.	Essex, Hamilton, Lynnfield, Topsfield, Wenham.	Arthur B. Lord, Wenham.
Bernardston, Gill, Leyden, Northfield, Warwick.	E. J. Best, Northfield.	Foxboro, Norton, Plainville.	Ira A. Jenkins, Foxboro.
BillERICA, Burlington.	Eugene C. Vining, BillERICA.	Franklin, Wrentham.	Arthur W. Hale, Franklin.
Blackstone, Millville, Seekonk.	Leon E. Davis, Millville.	Free town, Gosnold, Westport.	Edward L. Hill, Assonet.
Blandford, Huntington, Montgomery, Russell.	Melvin J. West, Huntington.	Georgetown, Groveland, Rowley.	Geo. E. Caswell, Georgetown.
Bolton, Dunstable, Harvard, Pepperell.	George B. Clarke, East Pepperell.	Grafton, Upton.	Albert S. Cole, Grafton.
Bourne, Mashpee, Sandwich.	Herbert L. Whitman, Bourne.	Granby, South Hadley.	Frederick E. Whittemore, South Hadley Falls.
Boxford, Middleton, Wilmington.	Ralph H. Barr, North Wilmington.	Granville, Sandisfield, Southwick, Tolland.	Wm. H. Sanderson, Granville.
Boylston, Shrewsbury, West Boylston.	Chester R. Stacy, Shrewsbury.	Hadley, Hatfield.	Clinton T. Richards, Northampton.
Brewster, Dennis, Yarmouth.	Alberto W. Small, Yarmouth.	Halifax, Kingston, Pembroke, Plympton.	Mrs. Julia Morton, Bryantville.
Brimfield, Monson.	Francis S. Brick, Monson.	Hanover, Hanson, Norwell.	Stephen G. Bean, West Hanover.
Brookfield, East Brookfield, North Brookfield.	Edward C. Hempel, North Brookfield.	Hinsdale, Peru, Washington, Windsor.	David J. Malcom, Hinsdale.
Buckland, Colrain, Shelburne.	Frank P. Davison, Shelburne Falls.	Holden, Oakham, Paxton, Rutland.	James R. Childs, Holden.
Carver, Lakeville, Rochester.	W. J. B. MacDougall, South Middleboro.	Holland, Wales, Warren.	Hermann G. Patt, Warren.
CharlEment, Hawley, Heath, Rowe.	Orion A. Morton, CharleMont.	Holliston, Medway, Sherborn.	C. Edward Fisher, Holliston.
Charlton, Leicester.	Theodore W. King, Leicester.	Hubbardston, Phillipston, Royalston, Templeton.	Asa M. Jones, Baldwinsville.
Chatham, Eastham, Harwich, Orleans.	Loring G. Williams, Harwich.	Lee, Monterey, Otis, Tyringham.	Clarence E. Michels, Lee.
Cheshire, Hancock, Lanesboro, New Ashford.	Everett G. Loring, Lanesboro.	Maynard, Stow...	W. H. Millington, Maynard.
Chesterfield, Williamsburg, Worthington.	Lucius A. Merritt, Chesterfield.	Medfield, Millis, Norfolk, Westwood.	A. S. Ames, Medfield.
Chilmark, Edgartown, Gay Head, Oak Bluffs, Tisbury, West Tisbury.	Robert W. Martin, Vineyard Haven.	Merrimac, Newbury, Salisbury, West Newbury.	Herman N. Knox, Newburyport.
Clarksburg, Florida, Monroe, Seavoy.	D. F. Carpenter, 32 Meadow Street, North Adams.		
Cohasset, Hingham.	Orvis K. Collins, Hingham.		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

Town in union.	Union superintendent.	Town in union.	Union superintendent.
<b>MASSACHUSETTS—continued.</b>		<b>MASSACHUSETTS—continued.</b>	
Millbury, Oxford..	Chauncey C. Ferguson, Millbury.	Princeton, Sterling, Westminster.	Guy W. Vall, Princeton.
Mount Washington, New Marlboro, Sheffield.	Luman R. Bowdish, Sheffield.	Provincetown, Truro, Wellfleet.	C. M. Pennell, Provincetown.
New Braintree, Sturbridge, West Brookfield.	Charles C. Richardson, West Brookfield.	Raynham, West Bridgewater.	Thomas E. Gay, West Bridgewater.
		Somerset, Swansea.	Frederick W. Kingman.
County.	County commissioner.	County.	County commissioner.
<b>MICHIGAN.</b>		<b>MICHIGAN—contd.</b>	
Alcona.....	George R. Emerick, Harrisville.	Lake.....	Edwin G. Johnson, Luther.
Alger.....	Earle H. Sortore, Munising.	Lapeer.....	C. H. Naylor, Lapeer.
Allegan.....	Mrs. C. L. Goodrich, Allegan.	Leelanau.....	H. E. Dumbille, Glen Arbor.
Alpena.....	Oscar J. Carr, Alpena.	Lenawee.....	G. J. Tripp, Adrian.
Antrim.....	Kate A. Wilson, Bellaire.	Livingston.....	E. Alma Sharpe, Howell.
Arenac.....	Lena Herman, Standish.	Lucas.....	Mrs. Ann I. Auten, Newberry.
Baraga.....	Elina E. Nelson, Baraga.	Mackinac.....	James E. Quinlan, St. Ignace.
Barry.....	Gertrude R. Miller, Hastings.	Macomb.....	Will L. Lee, Mount Clemens.
Bay.....	J. B. Laing, Bay City.	Manistee.....	Elbert Gerred, Manistee.
Benzie.....	Jay S. Pettitt, Benzonia.	Marquette.....	S. E. Anderson, Marquette.
Berrien.....	Mrs. E. H. Cole, St. Joseph.	Mason.....	C. A. Rinehart, Scottville.
Branch.....	D. L. Livermore, Coldwater.	Mecosta.....	LeRoy Bell, Big Rapids.
Calhoun.....	D. A. Davis, Marshall.	Menominee.....	James A. Munne, Menominee.
Cass.....	Geneva M. Ratliff, Dowagiac.	Midland.....	B. G. Scollay, Midland.
Charlevoix.....	May L. Stewart, Boyne City.	Missaukee.....	Lydia Ripatte, Lake City.
Cheboygan.....	Arthur L. Martin, Cheboygan.	Monroe.....	John G. Schafer, Monroe.
Chippewa.....	T. B. Aldrich, Sault Ste. Marie.	Montcalm.....	E. Straight, Stanton.
Clare.....	George E. Beresette, Harrison.	Montmorency.....	David W. Farrier, Hillman.
Clinton.....	Mattie Smith, St. Johns.	Muskegon.....	Mrs. Nellie B. Chisholm, Muskegon.
Crawford.....	Marguerite Hoyt, Frederic.	Newaygo.....	Carrie L. Carter, Fremont.
Delta.....	C. U. Woonpelt, Escanaba.	Oakland.....	A. L. Craft, Pontiac.
Dickinson.....	D. O'Hara, Iron Mountain.	Ocean.....	Angeline London, Hart.
Eaton.....	Cynthia A. Green, Charlotte.	Ogemaw.....	Josephine Woods, West Branch.
Emmet.....	Anson H. Washburn, Petoskey.	Ontonagon.....	A. C. Adair, Rockland.
Genesee.....	John L. Riegle, Flint.	Oscoda.....	Otto J. Heber, Reed City.
Gladwin.....	Susie F. Booth, Gladwin.	Oscoda.....	George L. Fowler, Mio.
Gogebic.....	John C. Watson, Ironwood.	Otsego.....	Sim J. Lewis, Johannesburg.
Grand Traverse.....	Lee Hornsby, Traverse City.	Ottawa.....	N. R. Stanton, Holland.
Gratiot.....	H. A. Potter, Ithaca.	Presque Isle.....	Martha A. Caldwell, Onaway.
Hillsdale.....	Robert C. Young, Hillsdale.	Roscommon.....	W. M. Coon, Roscommon.
Houghton.....	J. Bettens, Houghton.	Saginaw.....	Mrs. Evangeline G. Tefft, Saginaw, W. S.
Huron.....	W. H. Sparling, Bad Axe.	St. Clair.....	E. T. Blackney, Port Huron.
Ingham.....	Daisy I. Call, Mason.	St. Joseph.....	Lewis Miller, Centerville.
Ionia.....	J. Calvin Linebaugh, Ionia.	Sanilac.....	W. J. Musselman, Sandusky.
Iscoc.....	Ina M. Bradley, Tawas City.	Schoolcraft.....	W. T. S. Cornell, Manistique.
Iron.....	John F. Mason, Crystal Falls.	Shiawassee.....	H. E. Shocum, Corunna.
Isabella.....	Malcolm Crawford, Mount Pleasant.	Tuscola.....	B. H. McComb, Caro.
Jackson.....	W. W. McLain, Jackson.	Van Buren.....	E. V. Root, Paw Paw.
Kalamazoo.....	Mary Ensfield, Kalamazoo.	Washtenaw.....	Evan Esery, Ann Arbor.
Kalkaska.....	Irene Louise Getty, Kalkaska.	Wayne.....	E. W. Yost, Detroit.
Kent.....	A. M. Freeland, Grand Rapids.	Wexford.....	Roy Noteware, Cadillac.
Keweenaw.....	H. S. Winter, Mohawk.		
County.	County superintendent.	County.	County superintendent.
<b>MINNESOTA.</b>		<b>MINNESOTA—CON.</b>	
Aitkin.....	Iva Poston, Aitkin.	Cottonwood.....	Ernest Turner, Windom.
Anoka.....	Mrs. C. Lenfest, Anoka.	Crow Wing.....	Irma C. Hartley, Brainerd.
Becker.....	Anna G. Rogstad, Detroit.	Dakota.....	Josephine Raetz, Hastings.
Beltrami.....	J. C. McGehee, Bemidji.	Dodge.....	Zena Cooper, Mantorville.
Benton.....	Agnes K. Burns, Foley.	Douglas.....	Eva E. Wold, Alexandria.
Bigstone.....	Martha Rothwell, Ortonville.	Faribault.....	Eva Jones, Blue Earth.
Blue Earth.....	W. H. Detamore, Mankato.	Filmore.....	Cora Bigelow, Preston.
Brown.....	Robt. B. Kennedy, New Uhm.	Freeborn.....	Harold Dahlen, Albert Lea.
Carleton.....	Nora A. Nilsen, Moose Lake.	Goodhue.....	Mollie Remshardt, Red Wing.
Carver.....	F. L. Williams, Watertown.	Grant.....	Blanche L. Brennin, Elbow Lake.
Cass.....	R. F. Ross, Walker.	Hennepin.....	Mrs. May H. Dills, Minneapolis.
Chippewa.....	Oline Rolighed, Montevideo.	Houston.....	Mary W. Dorival, Caledonia.
Chisago.....	E. J. Cederholm, Lindstrom.	Hubbard.....	D. R. Bradford, Park Rapids.
Clay.....	S. O. Tang, Moorhead.	Isanti.....	Mrs. M. B. Hixson, Cambridge.
Clearwater.....	Mrs. Mae Barragy Barsness, Bagley.		
Cook.....	Wm. J. Clinch, Grand Marais.		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
MINNESOTA—con.		MISSISSIPPI—con.	
Itasca.....	Jessie E. Hutchins, Grand Rapids.	Clay.....	E. H. Walker, West Point.
Jackson.....	Nellie R. Rouse, Jackson.	Cochoma.....	W. F. Williams, Friars Point.
Kanabec.....	Willis Fairbanks, Mora.	Copiah.....	J. Q. Martin, Hazlehurst.
Kandiyohi.....	O. O. Ulvin, Willmar.	Covington.....	Alex. Newton, Collins.
Kittson.....	Hans Hanson, Hallock.	De Soto.....	R. E. L. Morgan, Hernando.
Koochiching.....	G. A. Olson, International Falls.	Forrest.....	J. C. Gay, Hattiesburg.
Lacqui Parle.....	Mrs. Hilma Slind, Madison.	Franklin.....	B. H. Lewis, Meadville.
Lake.....	Mrs. Alice W. Lawrence, Two Harbors.	George.....	E. L. Stinson, Sandersville.
Lesueur.....	J. A. Meagher, Lesueur Center.	Greene.....	E. Turner, Richton, R. 4.
Lincoln.....	J. T. Clawson, Ivanhoe.	Grenada.....	M. McKibben, Grenada.
Lyon.....	Mrs. Adelaide Whiting Anderson, Marshall.	Hancock.....	T. F. Keller, Nicholson.
McLeod.....	Louise G. Karstena, Glencoe.	Harrison.....	R. V. Temming, Pass Christian.
Mahnomen.....	Alice C. Hart, Mahanomen.	Hinds.....	G. M. Coleman, Jackson.
Marshall.....	David Johnson, Warren.	Holmes.....	G. H. Love, Goodman.
Martin.....	Minnie Folkett, Fairmont.	Humphreys.....	T. D. Rice, Belzoni.
Meeker.....	Marta Minor, Litchfield.	Issaquena.....	Geo. Robinson, Mayersville.
Millelacs.....	Olaf Wasentin, Millelacs.	Itawamba.....	H. L. Gillespie, Nettleton, R. 4.
Morrison.....	Crawford Shejdon, Little Falls.	Jackson.....	A. L. Flurry, Pascagoula.
Mower.....	Mrs. Runice L. Rice, Austin.	Jasper.....	J. Q. Ritchie, Bay Springs.
Murray.....	Jennie Holm, Slayton.	Jefferson.....	M. C. Harper, Fayette.
Nicollet.....	Albert J. Holmstead, St. Peter.	Jefferson Davis.....	G. L. Martin, Prentiss.
Nobles.....	John P. Hoffman, Worthington.	Jones.....	C. W. Jenkins, Laurel.
Norman.....	E. K. Sampson, Ada.	Kemper.....	W. W. Sheppard, Dekalb.
Olmstead.....	Wm. L. Mercer, Rochester.	Lafayette.....	H. T. Smith, Oxford.
Ottertail.....	Antoinette Henderson, Fergus Falls.	Lamar.....	L. T. Williamson, Sumrall.
Pennington.....	Geo. M. Gunderson, Thief River Falls.	Lauderdale.....	J. A. Riddell, Lauderdale.
Pine.....	Jens P. Miller, Pine City.	Lawrence.....	W. L. McGahey, Monticello.
Pipestone.....	J. R. Campbell, Pipestone.	Leake.....	C. K. Waggoner, Carthage.
Polk.....	N. A. Thorson, Crookston.	Lee.....	R. A. Gregory, Plantersville.
Pope.....	Mrs. Julia Solverud, Glenwood.	Leflore.....	L. S. Rogers, Schlater.
Ramsey.....	Geo. H. Reif, St. Paul.	Lincoln.....	Russell Elizey, Brookhaven.
Red Lake.....	Erbe E. Pouliot, Red Lake Falls.	Lowndes.....	E. A. Stanley, Columbus.
Redwood.....	Fern Kennedy, Redwood Falls.	Madison.....	R. E. Hinton, Canton.
Renville.....	Amalia M. Faribault, Olivia.	Marion.....	H. F. Patterson, Spring Cottage.
Rice.....	E. A. Lewis, Faribault.	Marshall.....	C. H. Curd, Holly Springs.
Rock.....	Edna A. Headley, Luverne.	Monroe.....	H. G. Howell, Quincy.
Roseau.....	Eddy E. Billberg, Roseau.	Montgomery.....	W. R. Applewhite, Winona.
St. Louis.....	C. H. Barnes, Duluth.	Neshoba.....	R. C. Peebles, Philadelphia.
Scott.....	H. J. Fitzpatrick, Shakopee.	Newton.....	E. H. Reynolds, Decatur.
Sherburne.....	Mrs. Ada P. Conger, Becker.	Noxubee.....	J. G. Chandler, Macon.
Sibley.....	Marta Beatty, Gaylord.	Oktibbeha.....	C. E. Scroggins, Starkville.
Stearns.....	W. A. Boerger, St. Cloud.	Panola.....	J. E. Johnson, Batesville.
Steele.....	A. E. Kenyon, Owatonna.	Pearl River.....	C. E. Bass, Poplarville.
Stevens.....	Ray S. Roberts, Morris.	Perry.....	L. D. Young, New Augusta.
Swift.....	Tillie S. Thomason, Benson.	Pike.....	S. W. Simmons, Magnolia.
Todd.....	O. B. De Laurier, Long Prairie.	Pontotoc.....	W. G. Henry, Algoma.
Traverse.....	Bessie Caswell, Wheaton.	Prentiss.....	J. W. Taylor, Booneville.
Wabasha.....	George H. Booth, Lake City.	Quitman.....	F. M. Bizzell, Marks.
Wadena.....	Austin C. Kennedy, Wadena.	Rankin.....	H. B. Barksdale, Fannin.
Waseca.....	H. F. Bloomquist, Stillwater.	Scott.....	O. D. Loper, Forest.
Washington.....	Mabel Madson, St. James.	Sharkey.....	J. N. Hall, Rolling Fork.
Watsonwan.....	Ludie Shirley, Breckenridge.	Simpson.....	T. A. Williamson, Magee.
Winona.....	A. C. Loomis, Winona.	Smith.....	Allen Coughman, Raleigh.
Wright.....	Mrs. M. M. Ferrell, Maple Lake.	Stone.....	Buren Broadus, Wiggins.
Yellow Medicine.....	Lue A. Olds, Granite Falls.	Sunflower.....	W. P. Sanders, Indianola.
MISSISSIPPI.		Tallahatchie.....	J. W. McCulloch, Greenville.
Adams.....	V. Josephine Pitts, Natchez.	Tate.....	Ira C. Allen, Senatobia.
Alcorn.....	W. F. Seago, Corinth.	Tippah.....	J. E. Pearce, Ripley.
Amite.....	J. N. Steele, Liberty.	Tishomingo.....	J. O. Epps, Dennis.
Attala.....	F. R. McKinnon, Kosciusko.	Tunica.....	W. G. Jaquess, Tunica.
Benton.....	W. T. Renick, Ashland.	Union.....	E. Blizard, Myrtle.
Bolivar.....	A. K. Eckles, Cleveland.	Walsham.....	J. J. Lee, Tylertown.
Calhoun.....	W. W. Hannaford, Pittsboro.	Warren.....	J. H. Cukin, Vicksburg.
Carroll.....	D. D. Fullilove, Vaiden.	Washington.....	B. L. Watch, Greenvale.
Chickasaw.....	Geo. D. Riley, Ackerman.	Webster.....	M. W. Wilkins, Waynesboro.
Choctaw.....	C. J. Murphy, Ackerman.	Wilkinson.....	Z. V. Sugg, Bellefontaine.
Claiborne.....	C. A. McAmis, Violet.	Winston.....	John C. Day, Woodville.
Clarke.....	J. R. Brock, Florence.	Yalobusha.....	E. C. Lovorn, Louisville.
		Yazoo.....	C. A. Lawhorn, Water Valley.
			Tom C. White, Yazoo City.
		MISSOURI.	
		Adair.....	P. J. Fowler, Kirksville.
		Andrew.....	D. D. Hooper, Savannah.
		Atchison.....	Sallie V. Grobe, Rock Port.
		Audrain.....	Ed. C. Offutt, Mexico.
		Barry.....	W. E. Hankins, Cassville.
		Barton.....	L. E. Brous, Lamar.
		Bates.....	A. C. Moreland, Butler.

## County.

**County superintendents.**

## County.

**(County superintendents.**

Benton ..... Chas. G. Harvey, Warsaw.  
Bolling..... W. M. Welker, Marble Hill.  
Boone..... Charles E. Northcutt, Columbia.  
  
Buchanan..... Fred Roach, St. Joseph.  
Butler..... S. O. Holloway, Poplar Bluff.  
Caldwell..... D. N. McClintock, Kingston.  
Callaway..... J. C. Humphreys, Fulton.  
Camden..... M. E. Johnson, Linn Creek.  
Cape Girardeau..... J. T. McDonald, Jackson.  
Carroll..... Arch M. Earp, Carrollton.  
Carter..... H. D. Condray, Ellinsore.  
Cass..... C. A. Burke, Harrisonville.  
Cedar..... W. H. Riley, Stockton.  
Chariton..... C. C. Carlstead, Keytesville.  
Christian..... J. Tom Mapes, Ozark.  
Clark..... Alberta Callison, Kahoka.  
Clay..... E. L. Black, Liberty.  
Clinton..... Mrs. Anna L. Sims, Plattsburg.  
Cole..... A. H. Sieve, Jefferson City.  
Cooper..... W. B. Downing, Boonville.  
Crawford..... Wm. M. Chapman, Steelville.  
Dade..... R. L. Myers, Greenfield.  
Dallas..... Benj. F. Rea, Buffalo.  
Davies..... Halffie Burton, Gallatin.  
DeKaib..... Mrs. Lou P. McAdam, Maysville.  
  
Dent..... Robert W. Crow, Salem.  
Douglas..... T. J. Moorhouse, Ava.  
Dunklin..... F. D. McNally, Kennett.  
Franklin..... A. F. Borberg, Union.  
Gasconade..... A. O. Mann, Hermann.  
Gentry..... Earle C. Duncan, Albany.  
Greene..... C. W. McCroskey, Springfield.  
Grundy..... Elizabeth Brainerd, Trenton.  
Harrison..... E. Newton Carter, Bethany.  
Henry..... Kathryn Spangler, Clinton.  
Hickory..... B. B. Ihrig, Wheatland.  
Holt..... North Lilly, Oregon.  
Howard..... Luman L. Spry, Fayette.  
Howell..... Mrs. Carrie A. Preston, West Plains.  
  
Iron..... G. W. Hanson, Ironton.  
Jackson..... L. F. Blackburn, Independence.  
  
Jasper..... Walter Colley, Carthage.  
Jefferson..... R. B. Wilson, Hillsboro.  
Johnson..... Ernest S. Wood, Warrensburg.  
Knox..... Mrs. Anna L. Swartz, Edina.  
Laclede..... G. C. Jones, Lebanon.  
Lafayette..... Elmer H. White, Lexington.  
Lawrence..... Harry Moore, Mount Vernon.  
Lewis..... W. B. Anderson, Monticello.  
Lincoln..... Zula Thurman, Troy.  
Linn..... J. F. Hortenstine, Brookfield.  
Livingston..... J. J. Jordan, Chillicothe.  
McDonald..... P. M. Collings, Pineville.  
Macon..... O. L. Cross, Macon.  
Madison..... W. S. Cooper, Fredericktown.  
Marion..... George B. John, Vienna.  
Mercer..... L. Francis Nelson, Palmyra.  
Miller..... Mrs. Allie Wilson, Princeton.  
Mississippi..... H. M. Atwell, Tusculumbia.  
..... Mrs. Clara E. Graham, Charleston.  
  
Moniteau..... Charles R. Milburn, California.  
Monroe..... L. D. Ash, Paris.  
Montgomery..... W. F. Hupe, Montgomery City.  
Morgan..... M. Wray Witten, Versailles.  
New Madrid..... W. J. Stearns, New Madrid.  
Newton..... E. E. Veepack, Neesho.  
Nodaway..... A. H. Cooper, Maryville.  
Oregon..... James O. Dotson, Alton.  
Osage..... Myra O. Reed, Linn.  
Ozark..... J. B. Huffman, Gainesville.  
Perry..... Chas. G. Ross, Caruthersville.  
Fettis..... Vera M. Abbott, Perryville.  
Phelps..... T. R. Luckett, Sedalia.  
Pike..... A. Z. Black, Rola.  
..... O. A. Wilson, Bowling Green.

Platte.....	Gertrude A. Fulcher, Platte City.
Polk.....	Mrs. Mabel Douglas, Bolivar.
Pulaski.....	J. C. Underwood, Crocker.
Putnam.....	H. U. G. Turnmire, Unionville.
Rails.....	L. C. Northcutt, New London.
Randolph.....	William Robertson, Huntsville.
Ray.....	W. T. McGaugh, Richmond.
Reynolds.....	J. G. Hartman, Centerville.
Ripley.....	C. N. Pennington, Doniphan.
St. Charles.....	Ben. H. Jolly, St. Charles.
St. Clair.....	David W. Denney, Osceola.
St. Francis.....	J. Clyde Akers, Farmington.
St. Genevieve.....	Vivian Gaty, Ste. Genevieve.
St. Louis.....	R. G. Russell, Clayton.
Saline.....	W. C. Fisher, Marshall.
Schuyler.....	Mrs. Lillie Hollowell, Lancaster.
Scotland.....	Mrs. Arla Williams, Memphis.
Scott.....	M. E. Montgomery, Benton.
Shannon.....	Walter Webb, Birch Tree.
Shelby.....	Mrs. Myrtle Threlkeld, Shelbyville.
Stoddard.....	Mrs. C. E. Smith, Bloomfield.
Stone.....	L. V. Threlfall, Galena.
Sullivan.....	Blanche Summers, Milan.
Taney.....	J. W. Bennett, Forsyth.
Texas.....	James K. Connolly, Houston.
Vernon.....	Lizzie L. White, Nevada.
Warren.....	F. W. Kehr, Marthasville.
Washington.....	Burwell Fox, Potosi.
Wayne.....	C. E. Burton, Piedmont.
Webster.....	Herschel F. Case, Marshfield.
Wright.....	Edna Craven, Grant City.
	Ray Wood, Hartville.
MONTANA.	
Beaverhead.....	Elizabeth Sutherland, Dillon.
Big Horn.....	Fay Alderson, Dillon.
Blaine.....	Elizabeth Crookshanks, Chinoek.
Broadwater.....	Mrs. Daisy D. Miles, Townsend.
Carbon.....	Florence McIntosh, Red Lodge.
Carter.....	Glen Westphal, Ekalaka.
Cascade.....	Jane Keeney, Great Falls.
Chouteau.....	Mrs. A. H. Kelly, Fort Benton.
Custer.....	Olive H. Lovett, Miles City.
Daniels.....	Mabel V. Thayer, Scooby.
Dawson.....	Camilla Osborne, Glendive.
Deer Lodge.....	Alice Roney, Anaconda.
Fallon.....	Mildred Lamb, Baker.
Fergus.....	Amanda O. Swift, Lewistown.
Flathead.....	Mary Eckstein, Kalispell.
Gallatin.....	Lucile Quaw, Bozeman.
Garfield.....	Lots H. Quinn, Jordan.
Glacier.....	Mrs. Mary Reagan, Cut Bank.
Golden Valley.....	Corlie F. Dunster, Ryegate.
Granite.....	Mrs. Lottie T. Irvine, Phillipsburg.
Hill.....	Elizabeth Ireland, Havre.
Jefferson.....	Lilah Halford, Boulder.
Judith Basin.....	Mrs. Emily Myers, Stanford.
Lewis and Clark.....	Jessie Morgan, Helena.
Liberty.....	Josephine Leahy, Chester.
Lincoln.....	Mrs. Carrie M. Spence, Libby.
McCone.....	Mrs. Mabelle Cobb, Circle.
Madison.....	Ethel L. Hutton, Virginia City.
Meagher.....	Mrs. Edith Thomas, White Sulphur Springs.
Mineral.....	Mrs. Julia O. Goff, Superior.
Missoula.....	Mrs. Minnie Spurgin, Missoula.
Musselshell.....	Mrs. Laura Carter, Roundup.
Park.....	Elsie Mercier, Livingston.
Phillips.....	Mrs. Isabella Burley, Malta.
Pondera.....	Lucretia Goff, Conrad.
Powder River.....	Florence Fitzpatrick, Broadus.
Powell.....	Florence Hill, Deer Lodge.

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County commissioner.	County.	County commissioner.
<b>MONTANA—contd.</b>		<b>NEBRASKA—con.</b>	
Prairie.....	Irene Gard, Terry.	Gosper.....	F. W. Montgomery, Elwood.
Ravalli.....	Bethel Irwin, Hamilton.	Grant.....	Theo. A. Frye, Hyannis.
Richland.....	Mrs. Emogene Lectra, Sidney.	Greeley.....	Mrs. Barbara A. O'Malley,
Roosevelt.....	Mrs. Nina McFarlan, Poplar.		Greeley.
Rosebud.....	Mrs. Sallie M. Adams, Forsyth.	Hall.....	Mrs. Ella M. Kern, Grand Island.
Sanders.....	Mrs. Ethel Toulmin, Thompson Falls.	Hamilton.....	Arthur S. Nelson, Aurora.
Sheridan.....	William Moe, Plentywood.	Harlan.....	Frances E. White, Alma.
Silver Bow.....	Mrs. Nellie Small, Butte.	Hayes.....	Edgitha Grant, Hayes Center.
Stillwater.....	Jennie Moore, Columbus.	Hitchcock.....	Evelyn Besack, Trenton.
Sweet Grass.....	Inga Solberg, Big Timber.	Holt.....	Anna Donohoe, O'Neill.
Teton.....	Mrs. Edythe Saylor, Chouteau.	Hooker.....	J. H. Garrett, Mullen.
Toole.....	Josephine Moberly, Shelby.	Howard.....	W. G. Baker, St. Paul.
Treasure.....	Mrs. Lillian Newnes, Hysham.	Jefferson.....	Eva B. Shuman, Fairbury.
Valley.....	Mrs. Olivia Patton, Glasgow.	Johnson.....	Helen Wright, Tecumseh.
Wheatland.....	Bertha Luncsford, Harlowton.	Kearney.....	Minnie Norlin, Minden.
Wibaux.....	Mrs. Maude B. Wills, Wibaux.	Keith.....	Katherine Feather, Ogallala.
Yellowstone.....	Frances Miller, Billings.	Keyapaha.....	Blanche Snyder, Springfield.
		Kimball.....	Rachel McElroy, Kimball.
		Knox.....	A. S. Stinson, Center.
		Lancaster.....	Maud Berry, Lincoln.
		Lincoln.....	Alleen Cochran, North Platte.
		Logan.....	A. C. Loshbaugh, Gandy.
		Loup.....	Marcia Smith, Taylor.
		McPherson.....	O. A. Johnson, Tryon.
		Madison.....	N. A. Housel, Madison.
		Merrick.....	Margaret McCutchen, Central City.
		Morrill.....	E. F. Kelley, Bridgeport.
		Nance.....	Chloe Baldridge, Fullerton.
		Nemaha.....	Bess E. Anderson, Auburn.
		Nuckolls.....	Mildred Mauck, Nelson.
		Otoe.....	Chas. Speedie, Nebraska City.
		Pawnee.....	Bertha Kuhlman, Pawnee City.
		Perkins.....	Mrs. Margaret Ballar, Grant.
		Phelps.....	Alice A. Swanson, Holdrege.
		Pierce.....	Marjorie Parminter, Pierce.
		Platte.....	Fred S. Lecron, Columbus.
		Polk.....	Amelia Rasmussen, Osceola.
		Red Willow.....	Geo. D. Curry, McCook.
		Richardson.....	D. H. Weber, Falls City.
		Rock.....	Evelyn W. Towle, Bassett.
		Saline.....	L. J. Bouchal, Wilber.
		Sarpy.....	Bertha Bishop, Papillion.
		Saunders.....	E. A. Adman, Wahoo.
		Scotts Bluff.....	Ada Haldeman, Gering.
		Seward.....	J. C. Greenwood, Seward.
		Sheridan.....	Pearle E. Summers, Rushville.
		Sherman.....	L. H. Currier, Loup City.
		Sioux.....	Vinnie Newell, Harrison.
		Stanton.....	S. E. Eddy, Stanton.
		Thayer.....	H. E. Barbee, Hebron.
		Thomas.....	Mrs. Rosa Salleng, Tredford.
		Thurston.....	Ellen M. Brown, Pender.
		Valley.....	Lelia Mooreman, Ord.
		Washington.....	Mabel Marsh, Blair.
		Wayne.....	Pearl Sewell, Wayne.
		Webster.....	Estelle Duckor, Red Cloud.
		Wheeler.....	Edith Bowler, Bartlett.
		York.....	T. C. Lord, York.
Counties in district.	District superintendent.	Counties in district.	District superintendent..
<b>NEVADA.</b>		<b>NEVADA—contd.</b>	
District No. 1:		District No. 4:	
Elko.....	E. E. Franklin, Elko.	Douglas, Lyon,	M. J. Burr, Carson City.
District No. 2:		Mineral, Orms-	
Eureka, Lander,	Geo. A. Whiteley, Ely.	by, Storey,	
White Pine.		Washoe.	
District No. 3:		District No. 5:	
Churchill, Humboldt, Pershing.	T. W. Chapman, Fallon.	Clark, Esmeralda, Lincoln, Nya.	Maude Frazier, Las Vegas.



## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

Towns in union.	Union superintendent.	Towns in union.	Union superintendent.
<b>NEW HAMPSHIRE.</b>		<b>NEW HAMPSHIRE—continued.</b>	
Acworth, Charlestown, Langdon, Lempster, Marlow.	H. Lawton Chase, Charlestown.	Brentwood, Exeter, Kensington, Newfields, Stratham.	Clifton A. Towle, Exeter.
Albany, Madison, Sandwich, Tamworth.	Frank W. Jackson, Madison.	Brookfield, Middleton, Milton, Wakefield.	Fred W. Dudley, Union.
Alexandria, Bridgewater, Bristol, Groton, Hebron.	Charles A. Breck, Bristol.	Campton, Ellsworth, Lincoln, Thornton, Woodstock.	Alonzo J. Knowlton, North Woodstock.
Allenstown, Bow, Epsom, Hooksett, Pembroke.	Henry S. Roberts, Suncook.	Canaan, Enfield, Orange, Springfield.	Edgar F. Callahan, Enfield.
Alstead, Chesterfield, Walpole, Westmoreland.	William J. English, Walpole.	Carroll, Dalton, Whitefield.	Wesley H. Douglass, Whitefield.
Alton, Farmington Special, New Durham, Tiltonboro, Wolfeboro.	Fred W. Landman, Wolfeboro.	Center Harbor, Meredith, Moultonborough, New Hampton.	William H. Baker, Meredith.
Amherst, Brookline, Milford, Mont Vernon.	Harold C. Bales, Milford.	Clarksville, Pittsburg, Stewartstown.	Earl P. Freeze, West Stewartstown.
Andover, Danbury, Grafton, New London, Willmot.	Idella K. Farnum, Andover.	Colebrook, Columbia.	Arthur C. Irish, Colebrook.
Antrim, Deering, Hillsborough, Washington, Windsor.	Amasa A. Holden, Hillsboro.	Cornish, Corydon, Plainfield.	Andrew P. Averill, Cornish Flat.
Ashland, Dorchester, Holderness, Rumney.	Clarence M. Harris, Ashland.	Danville, East Kingston, Epping, Fremont, Kingston, Nottingham, Sandown.	Fred E. Pitkin, Epping.
Atkinson, Hampstead, Newton, Plaistow, Salem, South Hampton.	James A. MacDougall, Salem.	Derry, Londonderry, Windham.	Charles W. Cutts, Derry.
Auburn, Candia, Chester, Deerfield, Raymond.	Vincent Gatto Raymond.	Dummer, Errol, Milan, Wentworth's Location.	Walton S. Adams, Milan.
Barnstead, Chichester, Gilmanston, Pittsfield.	Frederick T. Johnson, Pittsfield.	Dunbarton, Henniker, Hopkinton, Weare.	Fred S. Libbey, Henniker.
Barrington, Durham, Greenland, Lee, Madbury, Newmarket.	Vacant.	Easton, Franconia, Landaff, Lisbon, Lyman.	Geo. R. Gardiner, Lisbon.
Bartlett, Chatham, Conway, Hart's Location, Jackson, Livermore.	Llewellyn M. Felch, North Conway.	Eaton, Effingham, Freedom, Ossipee.	Harold C. Wingate, Mountainview.
Bath, Benton, Haverhill, Monroe.	Norman J. Page, Woodsville.	Farmington, Northwood, Strafford.	Clarence Sanborn, Northwood Center.
Bedford, Goffstown, New Boston.	Howard L. Winslow, Goffstown.	Fitzwilliam, Jaffrey, Rindge, Sharon, Troy.	Lewis S. Record, East Jaffrey.
Belmont, Gilford, Northfield, Tilton.	Channing T. Sanborn, Tilton.	Franklin, Hill, Sanbornton.	George A. Keith, Franklin.
Bennington, Dublin, Greenfield, Hancock, Frankestown, Peterborough.	Leon E. Prior, Peterboro.	Gilsum, Harrisville, Marlborough, Nelson, Roxbury, Stoddard, Sullivan, Surry.	Vernon S. Ames, Marlboro.
Bethlehem, Littleton.	Vernon K. Brackett, Littleton.	Gorham, Randolph (Success), Shelburne.	Charles W. Walker, Gorham.
Boscawen, Canterbury, Loudon, Penacook, Sallsbury.	George W. Sumner, Penacook.	Goshen, Newport, Sunapee, Unity.	William H. S. Ellingwood, Newport.
Bradford, Newbury, Sutton, Warner, Webster.	George H. Harmon, Warner.	Grantham, Lebanon.	H. Leslie Sawyer, Lebanon.
		Greenville, Lyndeborough, Mason, New Ipswich, Temple, Wilton.	Ralph P. Currier, Wilton.

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

Towns in union.	Union superintendent.	Towns in union.	Union superintendent.
<b>NEW HAMPSHIRE—continued.</b>		<b>NEW HAMPSHIRE—continued.</b>	
Hampton, Hampton Falls, New castle, Newington, North Hampton, Rye, Seabrook.	Charles H. Walker, Hampton.	Hollis, Hudson, Litchfield, Merrimack, Pelham, Jefferson, Lancaster.	Louis D. Record, 16 Summer St., Nashua.
Hanover, Lyme...	Charles W. Cutts, Lebanon.	Northumberland, Stark, Stratford, Orford, Piermont, Warren, Wentworth.	Eugene Tuttle, Lancaster.
Hinsdale, Richmond, Swanzy, Winchester.	George O. Smith, Hinsdale.	Rollinsford, Somersworth.	Orin M. Holman, North Stratford.
			Carl T. Rhodes, Wentworth.
			Walter H. Young, Somersworth.
County.	County superintendent.	County.	County superintendent.
<b>NEW JERSEY.</b>		<b>NEW MEXICO—continued.</b>	
Atlantic.....	H. M. Cressman, Egg Harbor City.	Dona Ana.....	Mrs. Fleming Jones, Las Cruces.
Bergen.....	B. C. Wooster, Hackensack.	Eddy.....	Geo. M. Brinton, Carlsbad.
Burlington.....	L. J. Kaser, Mount Holly.	Grant.....	Mrs. Geo. Bisby, Silver City.
Camden.....	C. S. Albertson, Camden.	Guadalupe.....	Mrs. Adela G. Gallegos, Santa Rosa.
Cape May.....	Aaron W. Hand, Cape May Court House.	Harding.....	Mrs. Edith Coffeen, Roy.
Cumberland.....	J. J. Unger, Bridgeton.	Hidalgo.....	Inez Wright, Lordsburg.
Essex.....	Oliver F. Morelock, Newark.	Lea.....	L. O. Cunningham, Lovington.
Gloucester.....	D. T. Steelman, Woodbury.	Lincoln.....	Mrs. Maude L. Blaney, Carrizozo.
Hudson.....	A. H. Updyke, Jersey City.	Luna.....	Mrs. Joe Willa Bell, Deming.
Hunterdon.....	J. S. Hoffman, Flemington.	McKinley.....	H. W. Brose, Gallup.
Mercer.....	J. M. Arnold, Trenton.	Mora.....	Grace Ogden, Mora.
Middlesex.....	H. B. Willis, New Brunswick.	Otero.....	Mrs. A. E. Thomas, Alamogordo.
Monmouth.....	C. J. Strahan, Freehold.	Quay.....	Mrs. Nelle Hauser, Tucuman.
Morris.....	J. H. Hulsart, Morristown.	Rio Arriba.....	Camuto Trujillo, Tierra Amarilla.
Ocean.....	C. A. Morris, Toms River.	Roosevelt.....	R. A. Palm, Portales.
Passaic.....	E. W. Garrison, Paterson.	Sandoval.....	Telesfor Sandoval, Bernalillo.
Salem.....	H. C. Dixon, Salem.	San Miguel.....	Benito F. Baca, Las Vegas.
Somerset.....	Henry C. Krebs, Somerville.	San Juan.....	Mrs. Ina Rathbun, Artec.
Sussex.....	Ralph Decker, Newton.	Santa Fe.....	Mrs. Adeline Warren, Santa Fe.
Union.....	A. L. Johnson, Elizabeth.	Sierra.....	Mrs. Oliver B. Dawson, Hillsboro.
Warren.....	Robert G. Sanford, Belvidere.	Socorro.....	F. M. Chaves, Socorro.
<b>NEW MEXICO.</b>		Taos.....	Christoval J. Quintana, Taos.
Bernalillo.....	Irene Burke, Albuquerque.	Torrance.....	Mrs. A. M. Farrett, Estancia.
Catron.....	Miss Deaton Campbell, Resaca.	Union.....	Marie Myers, Clayton.
Chaves.....	C. C. Hill, Roswell.	Valencia.....	Saturnino Baca, Belen.
Colfax.....	Lily Hannon, Raton.		
Curry.....	Mrs. Una M. Steed, Clovis.		
De Baca.....	B. H. Kirk, Fort Sumner.		
County.	District superintendent.	County.	District superintendent.
<b>NEW YORK.</b>		<b>NEW YORK—continued.</b>	
Albany.....	E. E. Richmond, Ravena.	Chautauque.....	Merton E. Hubbard, South Dayton.
Allegany.....	W. J. Haverly, West Berne.		Anna S. Hilton, 433 East Fourth St., Jamestown.
	Frank Stanbro, Menands.		Mrs. D. B. Connelly, Ashville.
	Frank L. Tuthill, Fillmore.		J. G. Pratt, Sherman.
	John D. Jones, Cuba.		L. Waldo Swain, Westfield.
	O. M. Burdick, Little Genesee.		J. S. Wright, Falconer.
	W. H. Garwood, Canaseraga.		C. W. Vandegrift, Horseheads.
	Willet L. Ward, Wellsville.		Harriet Esterbrook, Elmira.
	Harvey B. Heath, Oauquaga.		W. S. Harrick, South Otselle.
	J. E. Hurlburt, Windsor.		Albert C. Bowers, New Berlin.
	K. E. Bellby, Union.		J. S. Childs, Oxford.
	Erwin B. Whitney, Whitney Point.		Jane I Schenck, Greene.
	Joel J. Crandall, Franklinville.		Mary L. Isbell, Norwich.
	Gilbert A. Farwell, Hinsdale.		Oliver A. Wolcott, Keeseville.
	C. S. Palmer, Salamanca.		Ernest B. Sargeant, Ellenburg.
	G. E. Waller, Little Valley.		Clara E. Soden, Mooers Forks.
	E. A. Stratton, Randolph.		Katherine McMartin, Plattsburg, R. F. D. No. 1.
	H. S. R. Murphy, Cato.		
	H. T. Morrison, Weedsport.		
	Anna M. Kent, Union Springs.		
	Fred V. Lester, Venice Center.		
	Mabel C. L. Rodger, Moravia.		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENT OF SCHOOLS—Continued.

County.	District superintendent.	County.	District superintendent.
<b>NEW YORK—con.</b>		<b>NEW YORK—con.</b>	
Columbia.....	S. B. Smith, East Chatham. Charles Rivenburg, German- town.	Oneida.....	Glenn G. Steele, 829 Rose Place, Utica. Harry C. Buck, Clayville. W. J. Lewis, Clinton.
Cortland.....	M. G. Rickey, Ancram. W. K. Patrick, Cuyler. Ada M. Shuler, Solon. Edwin M. Preston, Dryden, R. F. D. 20.		Neva S. Angell, Durhamville, R. F. D. No. 1. Stanton D. Austin, Barneveld. Pauline L. Scott, Blossvale. Daniel M. Blue, Boonville.
Delaware.....	Charles F. Ferry, Masonville. Z. Le R. Myers, Downesville. E. O. Harkness, Delhi. Zena R. Travis, Roxbury. M. G. Nelson, Franklin. A. T. Hamilton, North Har- persfield.	Onondaga.....	M. E. Hinman, Tully. G. T. Fuggle, Jamesville. Earl Asselstine, Lysander. Manford D. Green, Liverpool. Homes T. Case, Skaneateles. Leon J. Cook, East Bloom- field.
Dutchess.....	Frank L. Haight, Fishkill. Clayton T. Sherman, Pough- keepsie.	Ontario.....	H. S. G. Loveless, Phelps. E. G. Soper, Seneca Castle. Harrie P. Weatherlow, Naples. Theron L. McKnight, Central Valley.
Erle.....	Mauds S. Rundall, Amana. F. O. Green, Tivoli. C. A. Heist, Clarence. H. A. Dann, Lancaster. W. E. Pierce, East Aurora. E. D. Ormsby, North Collins. W. E. Bensley, Springville.	Orange.....	O. Eichenberg, Monroe. S. A. Cortright, 6 Myrtle Ave. Ext., Middletown.
Essex.....	C. J. Mousaw, Schroom Lake. Gertrude M. Spear, Westport. Mattie J. Prime, Upper Jay.	Orleans.....	Mary J. Franklin, 118 W. Cen- ter St., Medina. Olive Clement, Albion.
Franklin.....	Myrtle E. MacDonald, Cha- teaugay. G. La Graft, Tupper Lake. F. H. Wilcox, North Bangor. Gertrude E. Hyde, Moira.	Oswego.....	Charles W. Smith, Holley. Mildred G. Pratt, Lacona. J. M. Bonner, Richland. Aura A. Cole, Constantia.
Fulton.....	Fred A. Stryker, Stratford. John Paris, Broadalbin.	Otsego.....	Charles I. Kingsbury, Mexico. W. S. Gardner, Fulton. J. B. McManus, Cooperstown. Frederick W. Strong, Worces- ter.
Genesee.....	H. W. Dyer, East Pembroke. J. L. M. Uphill, 8 Fairmont Ave., Batavia.		Grace A. Loudon, Coopers- town. John E. Frederick, 13 Forest Ave., Oneonta.
Greene.....	Thos. C. Perry, Catskill. R. M. MacNaught, Windham. Walter J. Decker, Hunter.	Putnam.....	Harrison Cossart, Morris. Floyd R. Thayer, Edmeston.
Hamilton.....	C. B. Hanley, Wells.	Rensselaer.....	James H. Brooks, Garrison. Mary Haswell, Hoosick Falls. Mrs. Adelaide W. Gardner, Stephentown.
Herkimer.....	A. J. Rose, West Winfield. Silas C. Klimm, Herkimer. G. H. Sabin, Salisbury. B. M. Robinson, Poland. C. M. Pierce, Adams.		G. Everett Patria, Castleton.
Jefferson.....	W. J. Linnell, 309 Ten Eyck St., Watertown. T. B. Stoel, Clayton. H. W. Ciegler, Sacket Harbor. D. D. T. Marshall, Redwood. Mrs. G. I. de Olloqui, Carthage. G. A. Sealey, Harrisville.	Rockland.....	George W. Miller, Nanuet.
	Grace H. Elliott, Lowville. Ruth M. Johnson, Port Ley- den.	St. Lawrence.....	W. T. Clark, Haleshoro. F. H. Wallace, Morristown. Carlos S. Blood, Heuvelton. V. C. Warriner, Lisbon. Rose M. Libby, Canton. Mrs. E. D. Grubb, Potsdam. E. F. McDonald, Massena. A. J. Fields, Winthrop.
	A. W. Trainor, West Leyden.	Saratoga.....	A. A. Lavery, Round Lake. Lou Messinger, Ballston Spa. E. E. Hinman, Schuylerville. A. M. Hollister, Corinth.
Livingston.....	John P. Magee, Genesee. G. C. McNinch, Conesus. R. G. Conklin, Tuscarora. Irving S. Sears, Hamilton.	Schenectady.....	Frank W. Palmer, Schenec- tady.
Madison.....	A. I. Tyler, Cazenovia. E. A. Fuller, Morrisville. John B. Harris, Canastota. W. W. Rayfield, Webster.	Schoharie.....	Orlando J. Ives, Jefferson. Marion W. Lewis, Schoharie. R. W. Eldredge, Sharon Springs.
Monroe.....	M. B. Furman, East Rochester. Fred W. Hill, Spencerport. John C. Malloch Churchville. N. Berton Alter, Nelliston.	Schuylerville.....	Alberta Spaulding, Burdett. Caroline Van Liew, Watkins. W. S. Wilson, Ovid.
Montgomery.....	George F. Bowman, 24 Blood Building, Amsterdam.	Seneca.....	Charles B. Earl, Waterloo. Frederick C. Wilcox, Addison.
Nassau.....	James S. Cooley, Mineola. W. C. Mephram, Merrick.	Steuben.....	Winifred Morrow, Bath. Frank H. Smith, Addison. Charles A. Bruen, Jasper. H. M. Brush, Arkport. Guyon J. Carter, Avoca. J. G. McConnell, Prattsburg.
Niagara.....	W. D. Wisner, Ransomville. Orrin A. Kold, Lockport, R. F. D. 5. M. Gazelle Hoffman, Lewiston,		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	District superintendent.	County.	District superintendent.
NEW YORK—con.		NEW YORK—con.	
Suffolk.....	P. B. Matthews, Bridgehampton. Roscoe C. Craft, Port Jefferson. Leonard J. Smith, Northport.	Washington.....	Marjorie G. Meiklejohn, Whitehall. Mrs. E. M. D. Cronkhite, Hudson Falls. Rose E. Gibbons, Hudson Falls. Mrs. Caroline P. Perry, Cambridge.
Sullivan.....	F. J. Lewis, Barryville. Charles S. Hick, Jeffersonville. Mrs. Emma C. Chase, Monticello.	Wayne.....	Mrs. Helen C. Andrews, Lyons. Mrs. Ida E. Cosad, Wolcott. A. M. Croop, Newark. Lewis H. Clark, Sodus.
Tioga.....	A. E. Belden, Newark Valley. M. D. Goodrich, Tioga Center. Mrs. H. T. Whittemore, Owego.	Westchester.....	S. J. Preston, White Plains. C. H. Cheney, White Plains. G. H. Covey, Katonah. R. D. Knapp, Purdy Station. J. T. McGurran, Bliss.
Tompkins.....	Fred A. Beardsley, Trumansburg. J. Paul Munson, Groton. John D. Bigelow, Ithaca.	Wyoming.....	Harriet M. Patch, Cowlesville. G. H. Stratton, Castile. J. F. Bullock, Penn Yan. E. P. Corbit, Rushville.
Ulster.....	Emily S. Burnett, Kingston, Station R. J. U. Gillette, Port Ewen. Elsie J. Roat, Ellenville. W. J. Andrews, Oliveira.	Yates.....	
Warren.....	F. F. Gunn, Glens Falls. J. R. Stickney, Bolton Landing. Kathleen Osborn, North Creek.		
County.	County superintendent.	County.	County superintendent.
NORTH CAROLINA.		NORTH CAROLINA—contd.	
Alamance.....	M. C. Terrell, Graham.	Jones.....	John R. Barker, Trenton.
Alexander.....	C. H. Gryder, Biddenite.	Lee.....	....., Sanford.
Alleghany.....	John M. Cheek, Sparta.	Lenoir.....	E. F. Sams, Kinston.
Anson.....	R. W. Allen, Wadesboro.	Lincoln.....	L. B. Beam, Lincolnton.
Ashe.....	C. M. Dickson, Silas Creek.	McDowell.....	N. F. Steppe, Marion.
Avery.....	Frank A. Edmonson, Newland.	Macon.....	M. D. Billings, Franklin.
Beaufort.....	H. H. McLean, Washington.	Madison.....	E. M. Jones, Marshall.
Bertie.....	H. W. Farly, Windsor.	Martin.....	A. J. Manning, Williamston.
Bladen.....	B. J. Cromartie, Garland.	Mechlenberg.....	J. M. Matthews, Charlotte.
Brunswick.....	M. C. Guthrie, Southport.	Mitchell.....	Jason Deyton, Bakersville.
Buncombe.....	F. L. Wells, Asheville.	Montgomery.....	J. S. Edwards, Troy.
Burke.....	T. L. Sigmon, Morganton.	Moore.....	A. B. Cameron, Carthage.
Cabarrus.....	J. B. Robertson, Concord.	Nash.....	L. S. Incoe, Nashville.
Caldwell.....	Y. D. Moore, Lenoir.	New Hanover.....	W. A. Graham, Wilmington.
Camden.....	L. L. Stevens, Indianatown.	Northampton.....	P. J. Long, Jackson.
Carteret.....	M. L. Wright, Beaufort.	Onslow.....	W. M. Thompson, Jacksonville.
Caswell.....	R. A. Pope, Yanceyville.	Orange.....	R. H. Claylor, Hillsboro.
Catawba.....	George E. Long, Newton.	Pamlico.....	T. B. Attmore, Stonewall.
Chatham.....	W. R. Thompson, Pittsboro.	Pasquotank.....	M. P. Jennings, Elizabeth City.
Cherokee.....	A. L. Martin, Murphy.	Pender.....	T. T. Murphy, Burgaw.
Chowan.....	R. H. Bachman, Edenton.	Perquimans.....	Charles Whedbee, Hertford.
Clay.....	Allen J. Bell, Hayesville.	Person.....	J. A. Beam, Roxboro.
Cleveland.....	J. Y. Irvin, Shelby.	Pitt.....	R. G. Fitzgerald, Greenville.
Columbus.....	Harry M. Bowling, Whiteville.	Polk.....	E. W. S. Cobb, Columbus.
Craven.....	R. S. Proctor, Newbern.	Randolph.....	T. F. Bulla, Ashboro.
Cumberland.....	B. T. McBryde, Fayetteville.	Richmond.....	L. J. Bell, Rockingham.
Currituck.....	W. D. Cox, Moyock.	Robeson.....	J. R. Foole, Lumberton.
Dare.....	Mabel Evans, Manteo.	Rockingham.....	L. N. Hickerson, Reidsville.
Davidson.....	S. G. Hasty, Lexington.	Rowan.....	R. G. Kizer, Salisbury.
DeWitt.....	F. P. Bradley, Mocksville.	Rutherford.....	W. R. Hill, Rutherfordton.
Duplin.....	M. H. Wooten, Warsaw.	Sampson.....	J. L. Hathcock, Clinton.
Durham.....	John W. Carr, Jr., Durham.	Scotland.....	L. M. Peele, Laurinburg.
Edgecombe.....	R. E. Sentelle, Tarboro.	Stanley.....	Charles A. Reap, Albemarle.
Forsyth.....	W. B. Speas, Winston-Salem.	Stokes.....	J. C. Carson, Germantown.
Franklin.....	F. L. Best, Lenoir.	Surry.....	J. H. Allen, Elkin.
Gaston.....	F. P. Hall, Belmont.	Swain.....	N. E. Wright, Bryson City.
Gates.....	J. M. Glenn, Gatesville.	Transylvania.....	A. F. Mitchell, Penrose.
Graham.....	H. H. Moody, Robbinsville.	Tyrrell.....	W. F. Waters, Columbia.
Granville.....	J. F. Webb, Oxford.	Union.....	Ray Funderburk, Monroe.
Greene.....	B. C. Williams, Snow Hill.	Vance.....	E. M. Rollins, Henderson.
Guilford.....	Thos. R. Foust, Greensboro.	Wake.....	J. C. Lockhart, Raleigh.
Halifax.....	A. E. Akers, Roanoke Rapids.	Warren.....	J. Edward Allen, Warrenton.
Harnett.....	B. P. Gentry, Lillington.	Washington.....	John W. Darden, Plymouth.
Haywood.....	A. C. Reynolds, Waynesville.	Watauga.....	Smith Hagsman, Vilas.
Henderson.....	R. G. Anders, Hendersonville.	Wayne.....	A. M. Proctor, Goldsboro.
Hoke.....	N. W. Brinton, Winton.	Wilkes.....	C. C. Wright, Hunting Creek.
Hyde.....	W. P. Hawfield, Raeford.	Wilson.....	C. L. Coon, Wilson.
Irrell.....	G. M. Guthrie, Swan Quarter.	Yadkin.....	J. T. Reece, Yadkinville.
Jackson.....	James A. Steele, Statesville.	Yancey.....	W. O. Griffith, Windom.
Jackson.....	O. S. Dillard, Sylva.		
Johnston.....	W. H. Hips, Smithfield.		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendents.	County.	County Superintendent.
<b>NORTH DAKOTA.</b>		<b>OHIO—continued.</b>	
Adams.....	Rose C. Wagner, Hettinger.	Coshocton.....	L. C. Shaw, Coshocton.
Barnes.....	John A. Johnson, Valley City.	Crawford.....	F. G. Bittikrofer, Bucyrus.
Benton.....	Adeline Englehorn, Minnewaukan.	Cuyahoga.....	A. G. Yawberg, Cleveland.
Billings.....	Mabel I. Rapp, Medora.	Darke.....	C. A. Wilt, Greenville.
Bottineau.....	Annie D. Burr, Bottineau.	Defiance.....	W. W. Heeter, Defiance.
Bowman.....	Madge L. Rugg, Bowman.	Delaware.....	Paul M. Lybarger, Delaware.
Burke.....	Mary Stannard, Bowbells.	Erie.....	I. S. Winner, Sandusky.
Burleigh.....	W. E. Parsons, Bismarck.	Fairfield.....	C. G. Johnson, Lancaster.
Cass.....	Helen H. Porter, Fargo.	Fayette.....	O. S. Nelson, Washington Court House.
Cavalier.....	S. J. A. Boyd, Langdon.	Franklin.....	Charles W. Cookson, Columbus.
Dickey.....	Faith Stevens, Ellendale.	Fulton.....	C. D. Perry, Wauson.
Divide.....	J. H. Phelps, Crosby.	Gallia.....	E. W. Edwards, Gallipolis.
Dunn.....	Muriel L. Hill, Manning.	Geauga.....	Harold Ryder, Chardon.
Eddy.....	Jesse D. Neff, New Rockford.	Greene.....	H. C. Aultman, Xenia.
Emmons.....	Henry H. Hanson, Linton.	Guernsey.....	W. G. Wolfe, Cambridge.
Foster.....	Mary K. Beaty, Carrington.	Hamilton.....	Pliny A. Johnston, Cincinnati.
Golden Valley.....	John W. Westland, Beach.	Hancock.....	A. J. Nowlan, Findlay.
Grand Forks.....	M. Beatrice Johnstone, Grand Forks.	Hardin.....	F. P. Allyn, Kenton.
Grant.....	Mina H. Aasved, Carson.	Harrison.....	G. E. Roche, Cadia.
Griggs.....	Mathilda Johnson, Coopers-town.	Henry.....	H. D. Teal, Napoleon.
Hettinger.....	Shirley G. Fox, Mott.	Highland.....	W. H. Vance, Hillsboro.
Kidder.....	Christina Scott, Steele.	Hocking.....	W. C. Brashares, Logan.
Lamoure.....	Mabel Osborne, Lamoure.	Holmes.....	F. H. Close, Millersburg.
Logan.....	Sol. R. Eiler, Napoleon.	Huron.....	E. A. Bell, Norwalk.
McHenry.....	Erma Smith, Towner.	Jackson.....	J. F. Dixon, Jackson.
McIntosh.....	Geo. A. Boschma, Ashley.	Jefferson.....	W. I. Everson, Steubenville.
McKenzie.....	Edwina Knecht, Schafer.	Knox.....	J. C. Marriott, Mount Vernon.
McLean.....	M. E. McCurdy, Washburn.	Lake.....	F. H. Kendall, Painesville.
Mercer.....	E. D. Goodwin, Stanton.	Lawrence.....	C. B. Dillon, Ironton.
Morton.....	H. K. Jensen, Mandan.	Licking.....	N. D. O. Wilson, Newark.
Mountrail.....	S. B. Eldsmoe, Stanley.	Logan.....	D. H. Sellers, Bellefontaine.
Nelson.....	Jennie E. Skriveth, Lakota.	Lorain.....	E. C.SCALE, Elyria.
Oliver.....	E. F. Mutchler, Center.	Lucas.....	J. W. Whitmer, Toledo.
Pembina.....	Charlotte A. Jones, Cavalier.	Madison.....	L. C. Dick, London.
Pierce.....	Sara C. Guss, Rugby.	Mahoning.....	Jerome Hull, Youngstown.
Ramsey.....	John A. Haig, Devils Lake.	Marion.....	W. R. Heistand, Marion.
Ransom.....	Anne Rutherford, Lisbon.	Medina.....	C. E. Ulery, Medina.
Renville.....	E. L. Kingsley, Mohall.	Meigs.....	T. W. Karr, Pomeroy.
Richland.....	Ethel K. Mertz, Wahpeton.	Mercer.....	S. Cotterman, Celina.
Rolette.....	Luella Marcotte, Rolla.	Miami.....	L. J. Bennett, Troy.
Sargent.....	Flora E. Baker, Forman.	Monroe.....	E. C. Felock, Woodfield.
Sheridan.....	J. N. Muehl, McClusky.	Montgomery.....	A. A. Maysilles, Dayton.
Sioux.....	L. W. Colebank, Swastika.	Morgan.....	F. A. Davis, McConnellsville.
Slope.....	Gertrude F. Hablutzel, Amidon.	Morrow.....	C. G. Letter, Mount Gilead.
Stark.....	H. O. Phippen, Dickinson.	Mustkingum.....	John S. McInnis, Zanesville.
Steele.....	Aagot Raasen, Finley.	Noble.....	H. L. Bates, Caldwell.
Stutsman.....	Harriet E. Perry, Jamestown.	Ottawa.....	A. O. Dehn, Port Clinton.
Towner.....	Gertrude Gibbens, Cando.	Paulding.....	John C. Berg, Paulding.
Trail.....	Anna G. Nestoss, Hillsboro.	Perry.....	D. E. Riddle, New Lexington.
Walsh.....	W. J. Hoover, Grafton.	Pickaway.....	M. C. Ward, Circleville.
Ward.....	A. M. Waller, Minot.	Pike.....	O. F. Williamson, Waverly.
Wells.....	Senney Nertrost, Fessenden.	Portage.....	O. E. Pore, Ravenna.
Williams.....	George Hillier, Williston.	Preble.....	W. S. Fogarty, Eaton.
<b>OHIO.</b>		Putnam.....	G. J. Keinath, Ottawa.
Adams.....	M. D. Shoemaker, West Union.	Richland.....	L. C. Martin, Mansfield.
Allen.....	C. A. Arganbright, Lima.	Ross.....	J. L. Forney, Chillicothe.
Ashland.....	G. W. Finch, Ashland.	Sandusky.....	S. A. Harbort, Fremont.
Ashtabula.....	C. D. Groves, Jefferson.	Scioto.....	Edw. McCowen, Portsmouth.
Athens.....	Guy Dinsmoor, Athens.	Seneca.....	J. E. Sherck, Tiffin.
Auglaize.....	Glen Drummond, Wapakoneta.	Shelby.....	W. E. Partington, Sidney.
Belmont.....	Geo. M. Pogue, St. Clairsville.	Stark.....	J. A. Smith, Canton.
Brown.....	E. V. Stephan, Georgetown.	Summit.....	C. A. Flickinger, Akron.
Butler.....	John Schwarz, Hamilton.	Trumbull.....	J. E. Boetticher, Warren.
Carroll.....	G. E. Bell, Carrollton.	Tuscarawas.....	Chas. Barthelmeh, New Philadelphia.
Champaign.....	J. C. Neer, Urbana.	Union.....	J. A. Yaley, Marysville.
Clark.....	J. M. Collins, Springfield.	Van Wert.....	J. A. Grausch, Van Wert.
Clermont.....	B. T. Davis, Batavia.	Vinton.....	C. L. Williams, McArthur.
Cinton.....	H. W. Hodson, Wilmington.	Warren.....	F. B. Harris, Lebanon.
Columbiana.....	John W. Moore, Lisbon.	Washington.....	M. C. Smith, Marietta.
		Wayne.....	G. U. Baumgardner, Wooster.
		Williams.....	W. A. Salter, Bryan.
		Wood.....	H. E. Hall, Bowling Green.
		Wyandot.....	James H. Grove, Upper Sandusky.

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
OKLAHOMA.		OREGON.	
Adair.....	Laura E. Mount, Stillwell.	Baker.....	Mrs. Gertrude Parker, Baker.
Alfalfa.....	Charles C. Wolf, Cherokee.	Benton.....	E. H. Castle, Corvallis.
Atoka.....	C. M. Conwill, Atoka.	Clackamas.....	Brenton Vedder, Oregon City.
Beaver.....	W. L. Hanson, Beaver.	Clatsop.....	O. H. Byland, Astoria.
Beckham.....	Anna Dudley, Sayre.	Columbia.....	J. B. Wilkerson, St. Helens.
Blaine.....	Mrs. Kitty Hagan, Watonga.	Cook.....	C. E. Myers, Coquille.
Bryan.....	J. Lee Cunningham, Durant.	Curry.....	J. E. Myres, Prineville.
Caddo.....	D. M. Sium, Anadarko.		Mrs. Jennie M. Cope, Gold Beach.
Canadian.....	Mrs. Edith M. Layton, El Reno.	Deschutes.....	J. Alton Thompson, Bend.
Carter.....	Mrs. Kate Zanelis, Ardmore.	Douglas.....	O. C. Brown, Roseburg.
Cherokee.....	Minnie Bengte, Tahlequah.	Gilliam.....	Mrs. Jean K. Porter, Condon.
Choctaw.....	J. T. Reed, Hugo.	Grant.....	Gertrude Lyon, Canyon City.
Cimarron.....	George W. Gibbs, Boise City.	Harney.....	Mrs. Mary Griffin, Burns.
Cleveland.....	Maud Northcutt, Norman.	Hood River.....	L. B. Gibson, Hood River.
Coal.....	J. M. Cusenberry, Coalgate.	Jackson.....	Susanne W. Homes, Jacksonville.
Comanche.....	Hazel Johnson, Lawton.		Mrs. Lillian Watts, Madras.
Cotton.....	M. M. Shepherd, Walter.	Jefferson.....	Mrs. Alice M. Bacon, Grants Pass.
Craig.....	Mrs. Harry Wammack, Vinita.	Klamath.....	Miss Twyla Head, Klamath Falls.
Creek.....	Mrs. Frank Peters, Sapulpa.		Pearl Hall, Lakeview.
Custer.....	Elizabeth Renick, Arapaho.	Lake.....	E. J. Moore, Eugene.
Delaware.....	Mrs. C. V. Aderhold, Jay.	Lincoln.....	R. P. Goin, Toledo.
Dewey.....	J. B. Conrad, Taloga.	Linn.....	Mrs. E. S. Geer, Albany.
Ellis.....	Arthur D. Walker, Arnett.	Malheur.....	Mrs. E. M. Crall, Vale.
Garfield.....	J. C. Hoffommer, Enid.	Marion.....	Mrs. M. L. Fulkerson, Salem.
Garvin.....	Roxie Hughes, Pauls Valley.	Morrow.....	Mrs. Lena S. Shurte, Heppner.
Grady.....	H. P. Allen, Chickasha.	Multnomah.....	W. C. Alderson, Portland.
Grant.....	Hazel Hints, Medford.	Polk.....	Josiah Willis, Dallas.
Greer.....	Will C. Jones, Mangum.	Sherman.....	Mrs. Grace L. Zevely, Moro.
Harmon.....	Harry C. Hicks, Hollis.	Tillamook.....	G. B. Lamb, Tillamook.
Harper.....	W. D. Drake, Buffalo.	Umatilla.....	W. W. Green, Pendleton.
Haskell.....	E. F. Bates, Stigler.	Union.....	Mrs. A. E. Ivanhoe, La Grande.
Hughes.....	V. H. Durham, Holdenville.	Wallowa.....	J. C. Conley, Enterrise.
Jackson.....	H. H. Porter, Altus.	Wasco.....	A. E. Gronewald, The Dallas.
Jefferson.....	R. C. White, Waurika.	Washington.....	N. A. Frost, Hillsboro.
Johnston.....	Oscar Dartar, Tishomingo.	Wheeler.....	H. J. Simmons, Fossil.
Kay.....	W. B. Clift, Newkirk.	Yamhill.....	S. S. Duncan, McMinnville.
Kingfisher.....	Mrs. Sara Liston, Kingfisher.		
Kiowa.....	Mrs. Estella Alexander, Hobart.	PENNSYLVANIA.	
Latimer.....	Florence G. Miller, Wilburton.	Adams.....	H. Milton Roth, Gettysburg.
Le Flore.....	Miss De Grace Thomas, Poteau.	Allegheny.....	Saml. Hamilton, Wilkinsburg.
Lincoln.....	Mrs. Anna Willis, Chandler.	Armstrong.....	C. M. Heilman, Kittanning.
Logan.....	Mrs. Nora B. Muxlow, Guthrie.	Beaver.....	David C. Locke, Beaver.
Love.....	Shawnee Brown, Marietta.	Bedford.....	Lloyd H. Hinkle, Bedford.
McClain.....	Myrtle Stephens, Purcell.	Berks.....	E. M. Rapp, Reading.
McCurtain.....	M. R. Phillips, Idabel.	Blair.....	T. S. Davis, Altoona.
McIntosh.....	Ed Davis, Eufaula.	Bradford.....	Wm. T. Clarke, Towanda.
Major.....	Louisa Specht, Fairview.	Bucks.....	J. H. Hoffman, Doylestown.
Marshall.....	Mrs. J. L. Derrick, Madill.	Butler.....	J. T. Connell, Butler.
Mayes.....	Carlotta Archer, Pryor.	Cambria.....	M. S. Bentz, Ebensburg.
Murray.....	Tom McGiboney, Sulphur.	Cameron.....	C. E. Plasterer, Emporium.
Muskogee.....	H. P. Battles, Muskogee.	Carbon.....	J. J. Bevan, Mauch Chunk.
Noble.....	Mrs. A. E. Hitzman, Perry.	Center.....	D. O. Eters, State College.
Nowata.....	E. R. Bell, Nowata.	Chester.....	Clyde T. Saylor, Westchester.
Okfuskee.....	Geo. F. Durham, Okemah.	Clarion.....	N. E. Heeter, Clarion.
Oklahoma.....	Mrs. Ida M. Hale, Oklahoma.	Clearfield.....	W. P. Trostle, Clearfield.
Okmulgee.....	N. O. Hopkins, Okmulgee.	Clinton.....	I. N. McCloskey, Lock Haven.
Osage.....	Ella Melone, Pawhuska.	Columbia.....	Wm. W. Evans, Bloomsburg.
Ottawa.....	Harry C. Ballinger, Miami.	Crawford.....	P. D. Blair, Meadville.
Pawnee.....	May Hussey, Pawnee.	Cumberland.....	J. Kelso Green, Carlisle.
Payne.....	Emma Bassler, Stillwater.	Dauphin.....	Frank E. Shambaugh, Lykens.
Pittsburg.....	Fannie C. Ross, McAlester.	Delaware.....	A. G. C. Smith, Media.
Pontotoc.....	A. Floyd, Ada.	Elk.....	J. W. Sweeney, St. Marys.
Pottawatomie.....	Mrs. Margaret A. Chaney, Tecumseh.	Erie.....	I. H. Russell, North East.
		Fayette.....	John S. Carroll, Uniontown.
Pushmataha.....	O. T. Hammond, Antlers.	Forest.....	J. O. Carson, Tionesta.
Roger Mills.....	W. F. Brewer, Cheyenne.	Franklin.....	L. E. Smith, Chambersburg.
Rogers.....	Callie Eaton, Claremore.	Fulton.....	J. E. Thomas, McConnellsburg.
Seminole.....	W. A. Ingle, Wewoka.	Greene.....	H. D. Freeland, Waynesburg.
Sequoyah.....	R. C. Mills, Ballisaw.	Huntingdon.....	L. E. Boyer, Huntingdon.
Stephens.....	C. J. Swoford, Duncan.	Indiana.....	J. F. Chapman, Indiana.
Texas.....	W. A. Martin, Guymon.	Jefferson.....	C. A. Anderson, Brookville.
Tillman.....	Clay Kerr, Frederick.	Juniata.....	C. E. Kauffman, McAlisterville.
Tulsa.....	Mrs. Minette Hedges, Tulsa.		
Wagoner.....	Victoria Lyles, Wagoner.		
Washington.....	Mary Richards, Bartlesville.		
Washita.....	S. G. Thomas, Cordell.		
Woods.....	Mrs. Edna E. Fash, Alva.		
Woodward.....	L. B. Chandler, Woodward.		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
<b>PENNSYLVANIA—continued.</b>		<b>PENNSYLVANIA—continued.</b>	
Lackawanna.....	J. C. Taylor, Scranton.	Potter.....	A. P. Akeley, Coudersport.
Lancaster.....	Daniel Fleisher, Lancaster.	Schuylkill.....	L. Seltzer, Pottsville.
Lawrence.....	C. F. Ball, Mahoningtown, R. S.	Snyder.....	T. A. Stetler, Middleburg.
Lebanon.....	John W. Snoke, Lebanon.	Somerset.....	John H. Fike, Somerset.
Lehigh.....	Mervin J. Wertman, Orefield.	Sullivan.....	Harry R. Henning, Lopez.
Luzerne.....	F. P. Hopper, Wilkes-Barre.	Susquehanna.....	F. H. Taylor, Montrose.
Lycoming.....	G. B. Milnor, Williamsport.	Tioga.....	Morton F. Jones, Bloesburg.
McKean.....	C. W. Lillibridge, Smethport.	Union.....	Wm. W. Spigelmeyer, Mifflinburg.
Mercer.....	H. E. McConnell, Mercer.	Venango.....	D. W. Armstrong, Franklin.
Mifflin.....	Lawrence Ruble, McVeytown.	Warren.....	C. S. Knapp, Warren.
Monroe.....	Frank Koehler, Stroudsburg.	Washington.....	L. R. Crumrine, Washington.
Montgomery.....	J. H. Landis, Norristown.	Wayne.....	A. H. Howell, Honesdale.
Montour.....	Fred W. Diehl, Danville.	Westmoreland.....	Robt. C. Shaw, Greensburg.
Northampton.....	Geo. A. Grim, Nazareth.	Wyoming.....	J. E. Morgan, Tunkhannock.
Northumberland.....	I. H. Mauser, Sunbury.	York.....	C. W. Stine, York.
Perry.....	D. A. Kline, New Bloomfield.		
Pike.....	L. Westbrook, Matamoras.		
Division.	Division superintendent.	Division.	Division superintendent.
<b>PHILIPPINE ISLANDS.</b>		<b>PHILIPPINE ISLANDS—contd.</b>	
Abra.....	Frank L. Meinke, <sup>1</sup> Bangued.	<i>Department of Mindanao and Sulu—Continued.</i>	
Albay.....	Ralph F. Rawson, <sup>1</sup> Albay.	Cotabato.....	Arthur E. Harpst, Cotabato.
Antique.....	Doroteo de Leon, <sup>1</sup> San Jose.	Davao.....	Vernon D. Gibson, <sup>1</sup> Davao.
Bataan.....	Benito Pangilinan, Balanga.	Lanao.....	Ralph E. Spencer, Camp Keithley.
Batangas.....	Quirino San Buenaventura, <sup>1</sup> Batangas.	Sulu.....	Jesse W. Light, Jolo.
Bohol.....	Frederic J. Waters, Tagbilaran.	Zamboanga.....	—, Zamboanga.
Bulacan.....	Wiley B. Beard, Malolos.		
Cagayan.....	Sylvester C. Kelleher, <sup>1</sup> Tuguegarao.	<b>PORTO RICO.</b>	
Camarines.....	Carl B. Crabtree, <sup>1</sup> Naga.	Adjuntas.....	Luis Padilla.
Capiz.....	Robert Clauson, Capiz.	Aguadilla.....	Santiago Veve, jr.
Cavite.....	J. Scott McCormick, <sup>1</sup> Cavite.	Anasco.....	Pedro P. Arán.
Cebu.....	Samuel J. Wright, Cebu.	Arecibo.....	Manuel G. Nin.
Ilocos Norte.....	Luther Parker, <sup>1</sup> Laoag.	Arroyo.....	Claude S. Field.
Ilocos Sur.....	Daniel E. Clancy, <sup>1</sup> Vigan.	Barros.....	Gumerindo Cordero.
Iloilo.....	O. H. Charles, Iloilo.	Bayamon.....	Manuel Negron Collazo.
Isabela.....	John H. M. Butler, <sup>1</sup> Iligan.	Cabo Rojo.....	William E. Littlefield.
Laguna.....	Roderick G. McLeod, Santa Cruz.	Caguas.....	Gerardo Selles.
Leyte.....	John F. Brown, <sup>1</sup> Tacloban.	Camuy.....	Juliet A. Casey.
Manila.....	H. A. Bordner, Manila.	Carolina.....	Rafael de J. Cordero.
Marinduque.....	Clayton I. Halsey, <sup>1</sup> Boac.	Cayey.....	Alan H. Lynch.
Mindoro.....	Justo Ramos, Calapan.	Ciales.....	Julio B. Ortiz.
Misamis.....	James M. Swartz, <sup>1</sup> Cagayan.	Coamo.....	Facundo Sánchez.
Mountain.....	Charles A. Blue, <sup>1</sup> Baguio.	Comerio.....	Oscar Borrata.
Nueva Ecija.....	Lewis P. Willis, <sup>1</sup> Cabanatuan.	Corozal.....	Francisco Gartzambide.
Nueva Vizcaya.....	Roy D. Bennett, Bayombong.	Fajardo.....	S. D. W. Mills.
Occidental Negros.....	William R. Hamme, <sup>1</sup> Bacolod.	Guayama.....	Servando Rabalanne.
Oriental Negros.....	John C. Early, Dumaguete.	Guayanilla.....	Hatuey Diaz.
Palawan.....	Canon Monasterial, <sup>1</sup> Cuyo.	Humacao.....	Cecilio Torres Reyes.
Pampanga.....	Adam C. Derkum, San Fernando.	Isabela.....	Carlos Rivera Ufret.
Pangasinan.....	Edward J. Murphy, Lingayen.	Juana Diaz.....	Zollo Gracia.
Rizal.....	Charles W. Rummell, Pasig.	Juncos.....	Celestino Benitez.
Romblon.....	Salustiano Vibar, Romblon.	Lares.....	Chas. P. Cassidy.
Samar.....	Charles E. Hoyer, Catbalogan.	Manati.....	Daniel F. Lynch.
Sorsogon.....	George W. Satterthwaite, Sorsogon.	Maricao.....	Francisco Garcia.
Surigao.....	John H. McBride, jr., <sup>1</sup> Surigao.	Mayaguez.....	Luis Irizarry.
Tarlac.....	Arthur G. Spiller, Tarlac.	Naguabo.....	Valeriano Flores.
Tayabas.....	Gilbert S. Perez, Lucena.	Ponce.....	John P. Blanco.
Union.....	Gabriel R. Manalac, <sup>1</sup> San Fernando.	Rio Grande.....	Rafael Segarra.
Zambales.....	Francisco Llamado, <sup>1</sup> Iba.	Rio Piedras.....	Cecil E. Stevens.
<i>Department of Mindanao and Sulu.</i>		Salinas.....	Stella Márquez.
Agusan.....	Frank P. Low, Butuan.	San German.....	J. U. McGuire.
Bukidnon.....	Bertram S. Ten Hagen, <sup>1</sup> Malaybalay.	San Sebastian.....	Pedro A. Cebollero.
		Toa Baja.....	José Vázquez.
		Utua.....	José C. Rosario.
		Vega Baja.....	Victor M. Suarez.
		Yabucoa.....	Bernardo Huyke.
		Yauco.....	Charles E. Miner.

<sup>1</sup> Acting.

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

Town.	Town superintendent.	Town.	Town superintendent.
<b>RHODE ISLAND.</b>		<b>RHODE ISLAND—continued.</b>	
Charlestown .....	Harold T. Lowe, Hope Valley.	Middletown.....	Joel Perckham, Aquidneck.
Hopkinton.....		Narragansett.....	William A. Brady, Wakefield.
Exeter.....		New Shoreham...	Richard Campbell, Block Island.
Foster.....		Richmond.....	Irving C. Phillips, East Greenwich.
Glocester.....		West Greenwich..	Joseph Rose, Escoheag.
Jamestown.....	Walter H. Tabor, Jamestown.		
Little Compton..	J. Webster Coombs, Little Compton.		
County.	County superintendent.	County.	County superintendent.
<b>SOUTH CAROLINA.</b>		<b>SOUTH DAKOTA—continued.</b>	
Abbeville .....	P. H. Mann, Abbeville.	Clark.....	Constance Conner, Clark.
Aiken.....	C. H. Seigler, Aiken.	Clay.....	Nora Silkenson, Vermillion.
Allendale .....	J. R. Cullom, Allendale.	Codington.....	Adah E. Minard, Watertown.
Anderson.....	L. M. Mahaffey, Anderson.	Corson.....	Regina Getman, McIntosh.
Bamberg.....	W. D. Howell, Bamberg.	Custer.....	Anna Gillette, Custer.
Barnwell.....	H. J. Crouch, Barnwell.	Davison.....	Alma T. Leighty, Mitchell.
Beaufort.....	W. M. Steinmeyer, Beaufort.	Day.....	Clara N. Hanson, Webster.
Berkeley.....	Sidney Sanders, Moncks Corner.	Deuel.....	C. G. St. John, Clear Lake.
Calhoun.....	G. W. Wannamaker, Matthews.	Dewey.....	Eleanor McVey, Timber Lake.
Charleston.....	H. H. McCarley, Charleston.	Douglas.....	Adella D. Hilton, Armour.
Cherokee.....	W. C. McArthur, Gaffney.	Edmunds.....	Nellie J. Bapp, Ipswich.
Chester.....	W. D. Knox, Chester.	Fall River.....	Irene E. Ferguson, Hot Springs.
Chesterfield.....	W. F. Young, Chesterfield.	Faulk.....	Marjory Warner, Faulkton.
Clarendon.....	E. J. Browne, Manning.	Grant.....	Nettie S. Johnson, Milbank.
Colleton.....	H. S. Strickland, Walterboro.	Gregory.....	Mary E. Ward, Burke.
Darlington.....	L. W. Dick, Darlington.	Haakon.....	Nina Duryea, Phillip.
Dillon.....	H. M. Moody, Dillon.	Hamlin.....	Esther M. Shaver, Hayti.
Dorchester.....	J. A. Farler, St. George.	Hand.....	Addie C. Welch, Miller.
Edgefield.....	W. W. Fuller, Edgefield.	Hanson.....	Jessie Robertson, Alexandria.
Fairfield.....	J. L. Brice, Winnsboro.	Harding.....	Eudora V. Stegner, Buffalo.
Florence.....	A. H. Gasque, Florence.	Hughes.....	Grace E. Matteson, Pierre.
Georgetown.....	J. W. Doar, Georgetown.	Hutchinson.....	Caroline M. Waltner, Freeman.
Greenville.....	M. C. Barton, Greenville.	Hyde.....	Henrietta DeWitte, Highmore.
Greenwood.....	T. E. Dorn, Greenwood.	Jackson.....	Blanch Fry, Kadoka.
Hampton.....	W. P. Bowers, Hampton.	Jerauld.....	R. H. Cramer, Wessington Springs.
Horry.....	E. C. Allen, Conway.	Jones.....	Lucia E. O'Neil, Murdo.
Jasper.....	R. R. Tison, Ridgeland.	Kingsbury.....	Margaret L. McCarty, De Smet.
Kershaw.....	Allen Murchison, Camden.	Lake.....	Florence Northorp, Madison.
Lancaster.....	A. C. Rowell, Lancaster.	Lawrence.....	Kathryn Ayer-Ewing, Deadwood.
Laurens.....	R. T. Wilson, Laurens.	Lincoln.....	Maylou M. Rogers, Canton.
Lee.....	B. T. Browne, Bishopville.	Lyman.....	W. C. Gigg, Oscoma.
Lexington.....	Julius E. Sharpe, Lexington.	McCook.....	Maude Graves, Salem.
McCormick.....	T. J. Price, McCormick.	McPherson.....	Ruth Reue, Leola.
Marion.....	S. J. Wall, Marion.	Marshall.....	Catherine Morris, Britton.
Marlboro.....	A. L. Easterling, Bennettsville.	Meade.....	Marion Johnson, Sturgis.
Newberry.....	E. H. Aull, Newberry.	Mellette.....	Mayme Miller, White River.
Oconee.....	L. C. Spears, Walhalla.	Miner.....	Margaret Anderson, Howard.
Orangeburg.....	W. A. Schifley, Orangeburg.	Minnehaha.....	Alma Languoth, Sioux Falls.
Pickens.....	F. V. Clayton, Pickens.	Moody.....	Katharina Hille, Flandreau.
Richland.....	G. M. Eleazer, Columbia.	Pennington.....	Irene E. Winkler, Rapid City.
Saluda.....	F. O. Black, Saluda.	Perkins.....	Mrs. Jessie O. Allen, Bison.
Spartanburg.....	J. B. Lancaster, Spartanburg.	Potter.....	Frances Carper, Gettysburg.
Sumter.....	J. H. Haynesworth, Sumter.	Roberts.....	Pearl F. Robinson, Sisseton.
Union.....	F. M. Ellerbe, Union.	Sanborn.....	Sada C. Post, Woonsocket.
Williamsburg.....	W. F. Montgomery, Kingstree.	Shannon.....	J. M. Blish, Pine Ridge.
York.....	J. E. Carroll, York.	Spink.....	Edna M. Cranefield, Redfield.
<b>SOUTH DAKOTA.</b>		Stanley.....	Winifred Angel, Fort Pierre.
Aurora.....	Elsie Hooper, Plankinton.	Sully.....	Fern Spencer, Onida.
Beadle.....	Nellie Brusso, Huron.	Todd.....	Mrs. Saide W. Hickey, Sioux Falls.
Bennett.....	Clara Parlasca, Martin.	Tripp.....	Maude Henderson, Winner.
Bon Homme.....	Lillian S. Cooper, Tyndall.	Turner.....	Robert Fawell, Parker.
Brookings.....	Mabel K. Troien, Brookings.	Union.....	Clara J. Hayes, Elk Point.
Brown.....	Lucile J. Trott, Aberdeen.	Walworth.....	E. C. Giffin, Selby.
Brule.....	Bonnie Martin, Chamberlain.	Washbaugh.....	J. M. Woods, Wanblee.
Buffalo.....	Clara Stroud, Gannaville.	Yankton.....	Mabel Holtan, Yankton.
Butte.....	Mary Jamison, Belle Fourche.	Ziebach.....	Hortense M. Bagley, Dupree.
Campbell.....	Lora Hanna, Mound City.		
Charles Mix.....	Cora E. Stone, Lake Andes.		

1 Unorganized county.



## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
TENNESSEE.		TENNESSEE—CON.	
Anderson.....	W. H. Miller, Clinton.	Scott.....	W. J. Jeffers, Huntsville.
Bedford.....	Louis Wilhoite, Shelbyville.	Sequatchie.....	W. V. Freiley, Dunlap.
Benton.....	E. J. Clement, Camden.	Sevier.....	R. L. Ogle, Sevierville.
Bledsoe.....	Samuel Hixson, Pikeville.	Shelby.....	Chas. O. Williams, Memphis.
Blount.....	J. H. Misler, Maryville.	Smith.....	F. S. Huffines, Carthage.
Bradley.....	E. J. Frazier, Cleveland.	Stewart.....	W. C. Howell, Dover.
Campbell.....	E. H. Smith, Jacksboro.	Sullivan.....	J. C. Akard, Blountville.
Cannon.....	W. H. Finley, Woodbury.	Sumner.....	T. W. Hunter, Gallatin.
Carroll.....	D. T. Barnhill, Huntingdon.	Tipton.....	Fugene Younger, Covington.
Carter.....	J. R. Ritchie, Elizabethton.	Trousdale.....	Mrs. L. E. McCuskey, Harla-
Cheatham.....	P. H. Duke, Ashland City.		ville.
Chester.....	J. W. Stewart, Henderson.	Unicoi.....	R. H. W. Gilbert, Erwin.
Claiborne.....	Jas. W. Baldwin, New Taze-	Union.....	W. H. Thomas, Maynardville.
	well.	Van Buren.....	C. M. Clark, Spencer.
Clay.....	H. G. Maxey, Celina.	Warren.....	J. B. Clark, McMinnville.
Cocke.....	Ruth O'Dell, Newport.	Washington.....	J. C. Berry, Jonesboro.
Coffee.....	L. E. Summers, Manchester.	Wayne.....	Jno. W. Gallien, Waynesboro.
Crockett.....	W. B. Jones, Alamo.	Weakley.....	F. Y. Fuqua, Dresden.
Cumberland.....	J. S. Cline, Crossville.	White.....	W. E. Shorkey, Sparta.
Davidson.....	W. C. Dodson, Nashville.	Williamson.....	Fred J. Page, Franklin.
Decatur.....	Geo. L. Wortham, Parsons.	Wilson.....	G. W. Alexander, Lebanon.
DeKalb.....	Emmons Givan, Liberty.		
Dickson.....	R. E. Corlew, Charlotte.	TEXAS.	
Dyer.....	N. Dora Bowen, Dyersburg.	Anderson.....	E. F. Rollins, Palestine.
Fayette.....	J. B. Summers, Somerville.	Andrews.....	J. W. Irvin, Andrews.
Fentress.....	W. R. Storie, Jamestown.	Angelina.....	W. A. O'Quinn, Lufkin.
Franklin.....	W. J. Arnold, Winchester.	Aransas.....	Jce A. Harper, Rockport.
Gibson.....	F. L. Browning, Trenton.	Archer.....	Geo. W. Alexander, Archer
Giles.....	B. H. Gaultney, Pulaski.		City.
Grainger.....	H. G. Farmer, Rutledge.	Armstrong.....	H. L. Mobley, Claude.
Greene.....	Joel N. Pierce, Greeneville.	Atascosa.....	Hiram D. Rhode, Jourdanton.
Grundy.....	J. L. Rollings, Altamont.	Austin.....	W. S. Smith, Delville.
Hamblen.....	J. D. Self, Morristown.	Bailey.....	R. J. Klump, Muleshoe.
Hamilton.....	J. A. Roberts, Chattanooga.	Bandera.....	J. A. Eames, Bandera.
Hancock.....	L. J. Catron, Sneedville.	Bastrop.....	Fred Haynie, Bastrop.
Hardeman.....	M. L. Hardin, Bolivar.	Baylor.....	Nat G. Mitchell, Seymour.
Hardin.....	J. C. Smith, Saltito.	Bee.....	Fannie Dobie, Beeville.
Hawkins.....	C. H. Richardson, Rogersville.	Bell.....	P. L. Stone, Belton.
Haywood.....	F. R. Ogilvie, Brownsville.	Bexar.....	W. A. Thurman, San Antonio.
Henderson.....	R. E. Powers, Lexington.	Blanco.....	Wm. Martiny, Johnson City.
Henry.....	Joe Routon, Paris.	Borden.....	J. H. Hannabuss, Gail.
Hickman.....	J. A. McCord, Centerville.	Bosque.....	Mrs. Daisy Bible, Meridian.
Houston.....	D. J. McAnley, Erin.	Bowie.....	C. A. Ransom, Boston.
Humphreys.....	W. H. Knight, Waverly.	Brazoria.....	Lettie E. DeFee, Angleton.
Jackson.....	Estelle Gailbreath, Gainesboro.	Brewster.....	J. E. Smith, Bryan.
Jefferson.....	Roy R. Bales, Dandridge.	Briscoe.....	M. S. Burke, Alpine.
Johnson.....	R. P. Donnelly, Mountain	Brooks.....	L. B. Brooks, Silverton.
	City.	Brown.....	J. A. Brooks, Falfurrias.
Knox.....	W. L. Stooksbury, Knoxville.	Burleson.....	Carrie Reeves, Brownwood.
Lake.....	Thurman McCain, Tipton-	Burnet.....	Lee Hensley, Caldwell.
	ville.	Caldwell.....	J. R. Smith, Burnet.
Lauderdale.....	G. G. McLeod, Ripley.	Caldwell.....	Loons Podd, Lockhart.
Lawrence.....	Virgil G. Holt, Lawrenceburg.	Calhoun.....	S. L. Marsh, Port Lavaca.
Lewis.....	S. Houston Proffitt, Hoben-	Callahan.....	B. G. Chrisman, Baird.
	wad.	Cameron.....	P. D. Kennamer, Brownsville.
Lincoln.....	W. B. Davidson, Fayetteville.	Camp.....	G. T. Barnes, Pittsburg.
Loudon.....	J. T. Henderson, Loudon.	Carson.....	J. A. Whiteside, Panhandle.
McMinn.....	E. R. Lingerfelt, Athens.	Cass.....	J. B. McClung, Linden.
McNairy.....	Terry Abernathy, Selmer.	Castro.....	B. D. Woodlee, Dimmitt.
Macon.....	W. H. Cook, La Fayette.	Chambers.....	Joe F. Willson, Anahue.
Madison.....	W. A. Malone, Jackson.	Cheerokee.....	W. B. Thompson, Rusk.
Marion.....	D. A. Tate, South Pittsburg.	Childress.....	Mable Hare, Childress.
Marshall.....	J. G. Stinson, Lewisburg.	Clay.....	Hugh Moore, Henrietta.
Maury.....	Jno. P. Graham, Culleoka.	Cochran.....	J. H. Moore, Lubbock.
Meigs.....	J. H. Bennett, Decatur.	Coke.....	E. J. Stockton, Robert Lee.
Monroe.....	H. L. Callahan, Madisonville.	Coleman.....	C. L. South, Coleman.
Montgomery.....	A. W. Jobe, Clarksville.	Collin.....	W. S. Smith, McKinney.
Moore.....	A. H. Wiseman, Lynchburg.	Collingsworth.....	C. C. Small, Wellington.
Morgan.....	L. B. Peters, Warburg.	Colorado.....	B. H. Melnert, Columbus.
Obion.....	B. A. Vaughan, Union City.	Comal.....	Carl Roeper, New Braunfels.
Overton.....	George O. Lea, Livingston.	Comanche.....	H. L. Gantz, Comanche.
Perry.....	L. G. Bunch, Linden.	Concho.....	R. Davenport, Paint Rock.
Pickett.....	W. J. Rabb, Byrdstown.	Cooke.....	F. J. Clement, Gainesville.
Polk.....	W. B. Rucker, Copperhill.	Coryell.....	H. T. Hall, Gateville.
Putnam.....	Beecher Gentry, Cookeville.	Cottle.....	Mrs. Edith Jones, Paducah.
Rhea.....	Walter White, Dayton.	Crockett.....	Chas. F. Davidson, Ozona.
Roane.....	J. F. Brittain, Kingston.	Crosby.....	Fluk L. Parrish, Crosbyton.
Robertson.....	Wm. McNeeley, Springfield.	Culbertson.....	W. F. Neill, Van Horn.
Rutherford.....	W. N. Elrod, Murfreesboro.	Dallam.....	A. M. Reese, Dalhart.
		Dallas.....	A. F. McDonald, Dallas.

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
TEXAS—contd.		TEXAS—contd.	
Dawson.....	J. R. Lowrie, Lamesa.	Kleberg.....	Ben F. Wilson, Kingsville.
Deaf Smith.....	W. M. Megert, Hereford.	Knox.....	J. M. Morgan, Benjamin.
Delta.....	Lillie Carrell, Cooper.	Lamar.....	Mysia Robinson, Paris.
Denton.....	L. A. Allison, Denton.	Lamb.....	R. C. Hopping, Olton.
De Witt.....	H. B. Montgomery, Cuero.	Lampasas.....	W. H. Addins, Lampasas.
Dickens.....	Chas. McLaughlin, Dickens.	La Salle.....	G. A. Welhausen, Cotulla.
Dimmitt.....	Wm. H. Davis, Carrizo Springs.	Lavaca.....	Frank Schoppe, Hallettsville.
Donley.....	W. T. Link, Clarendon.	Lee.....	E. McIntosh, Giddings.
Duval.....	D. A. Parr, San Diego.	Leon.....	W. R. Moore, Centerville.
Eastland.....	Ulaia Howard, Eastland.	Liberty.....	W. C. Crowley, Liberty.
Ector.....	J. T. Cross, Odessa.	Limestone.....	Mrs. Cora Ferguson, Groesbeck.
Edwards.....	A. P. Allison, Rocksprings.	Lipscomb.....	W. E. Shutterly, Lipscomb.
Ellis.....	John Olsen, Waxahachie.	Live Oak.....	T. H. Miller, George West.
El Paso.....	Myra C. Winkler, El Paso.	Llano.....	A. E. Moore, Llano.
Erath.....	Mary Marrs, Stephenville.	Loving.....	Jas. F. Ross, Pecos.
Falls.....	Lucile Rogers, Marlin.	Lubbock.....	E. B. Haynes, Lubbock.
Fannin.....	F. A. Spencer, Bonham.	Lynn.....	J. W. Elliott, Tahoka.
Fayette.....	G. A. Shierling, La Grange.	Madison.....	Loula Malone, Madisonville.
Fisher.....	Henry L. De Busk, Roby.	Marion.....	Mrs. I. C. Donnelly, Jefferson.
Floyd.....	W. B. Clark, Floydada.	Martin.....	A. G. Odom, Stanton.
Foard.....	G. L. Burk, Crowell.	Mason.....	John T. Banks, Mason.
Fort Bend.....	Minnie M. Mayes, Richmond.	Matagorda.....	Mabel Kennedy, Bay City.
Franklin.....	W. R. Irby, Mount Vernon.	Maverick.....	W. A. Bonnet, Eagle Pass.
Freestone.....	E. J. Hood, Fairfield.	McCulloch.....	W. M. Deans, Brady.
Frio.....	Mrs. Mena Betts, Pearsall.	McLennan.....	R. L. Abbott, Waco.
Gaines.....	T. O. Stark, Seminole.	McMullen.....	D. B. Martin, Tilden.
Galveston.....	Tom B. Blackstone, Galveston.	Medina.....	W. N. Saathoff, Hondo.
Garza.....	H. G. Smith, Post.	Menard.....	J. D. Scruggs, Menard.
Gillespie.....	A. H. Knoese, Fredericksburg.	Midland.....	J. M. DeArmond, Midland.
Glasscock.....	U. E. Bailey, Garden City.	Milam.....	Jim F. Chadwick, Cameron.
Goliad.....	Mrs. Bessie Haydon, Goliad.	Mills.....	L. E. Patterson, Goldthwaite.
Gonzales.....	G. E. Bradley, Gonzales.	Mitchell.....	J. C. Hall, Colorado.
Gray.....	John Ayres, Lefors.	Montague.....	B. C. Poteet, Montague.
Grayson.....	Geo. W. Acton, Sherman.	Montgomery.....	P. R. Clarke, Conroe.
Gregg.....	S. L. Wilson, Longview.	Moore.....	L. W. Wall, Dumas.
Grimes.....	George L. Barron, Anderson.	Morris.....	Irma Stokes, Dainingerfield.
Guadalupe.....	Max H. Weinert, Seguin.	Motley.....	C. L. Glenn, Matador.
Hale.....	L. D. Griffin, Plainview.	Nacogdoches.....	E. Maud Lewis, Nacogdoches.
Hall.....	M. E. McNally, Memphis.	Navarro.....	Albert J. Davis, Corsicana.
Hamilton.....	A. T. Jones, Hamilton.	Newton.....	E. A. Lindsey, Newton.
Hansford.....	A. H. Storrs, Hansford.	Nolan.....	Minnie E. Fowler, Sweetwater.
Hardeman.....	Mrs. Frances Bone, Quanah.	Nueces.....	Nat Benton, Corpus Christie.
Hardin.....	J. W. McDonald, Kountze.	Ochiltree.....	J. M. Grigsby, Perryton.
Harris.....	W. G. Smiley, Houston.	Oldham.....	Jas. E. May, Vega.
Harrison.....	J. W. Cyphers, Marshall.	Orange.....	Mrs. H. W. McGill, Orange.
Hartley.....	W. R. Slaton, Channing.	Palo Pinto.....	Mrs. Edith Clark, Palo Pinto.
Haskell.....	Mrs. Ed. Robertson, Haskell.	Panola.....	M. Shaw, Carthage.
Hays.....	Wilma Allen, San Marcos.	Parker.....	V. P. Craver, Weatherford.
Hemphill.....	J. F. Stephens, Canadian.	Parmer.....	James D. Hamlin, Farwell.
Henderson.....	B. P. Smith, Athens.	Pecos.....	Howell Johnson, Fort Stockton.
Hidalgo.....	J. S. Bunn, Edinburg.		
Hill.....	Frank Van Winkle, Hillsboro.	Pork.....	W. J. Tullios, Livingston.
Hockley.....	J. R. Evans, Ropersville.	Potter.....	R. C. Johnson, Amarillo.
Hood.....	R. M. Mugg, Granbury.	Presidio.....	K. C. Miller, Marfa.
Hopkins.....	B. F. Vanderslice, Sulphur Springs.	Rains.....	H. D. Garrett, Emory.
		Randall.....	Worth A. Jennings, Canyon.
Houston.....	J. H. Rosser, Crockett.	Rcal.....	Ed. A. Kelly, Leakey.
Howard.....	J. T. Brooks, Big Spring.	Reagan.....	W. W. Pittman, Stiles.
Hudspeth.....	P. A. Hazzard, Sierra Blanca.	Red River.....	Mrs. C. Stephens, Clarksville.
Hunt.....	E. P. Thomas, Greenville.	Reeves.....	Jas. F. Ross, Pecos.
Hutchinson.....	M. G. Mathis, Plemmons.	Refugio.....	J. Turner Vance, Refugio.
Irion.....	W. W. Carson, Sherwood.	Roberts.....	J. K. McKenzie, Miami.
Jack.....	H. W. Dobson, Jacksboro.	Robertson.....	Clara Story, Franklin.
Jackson.....	Musa Irby, Edna.	Rockwall.....	J. K. Wells, Rockwall.
Jasper.....	I. J. Hargis, Jasper.	Runnels.....	John J. Bugz, Ballinger.
Jeff Davis.....	J. W. Merrill, Fort Davis.	Rusk.....	G. C. Padgett, Henderson.
Jefferson.....	Mary Sandell, Beaumont.	Sabine.....	O. P. Pate, Hemphill.
Jim Hogg.....	A. M. Brumfield, Hebbornville.	San Augustine.....	W. E. Mathews, San Augustine.
Jim Wells.....	Leila B. Du Bose, Alice.	San Jacinto.....	D. M. Love, Cold Springs.
Johnson.....	Victor B. Panuel, Cleburne.	San Patricio.....	Mrs. Susan Sipes, Brinton.
Jones.....	John C. Thompson, Anson.	San Saba.....	G. L. Huckaby, San Saba.
Karnes.....	L. P. Lightsey, Karnes City.	Schleicher.....	C. A. Womack, El Dorado.
Kaufman.....	Mary E. Nash, Kaufman.	Scurry.....	Neely Squires, Snyder.
Kendall.....	J. T. Phillip, Boerne.	Shachelford.....	Richard Dyess, Albany.
Kent.....	J. T. Vardiman, Claremont.	Shelby.....	W. M. Chandler, Center.
Kerr.....	Lee Wallace, Kerrville.	Sherman.....	J. P. Roeder, Stratford.
Kimble.....	Weaver H. Baker, Junction.	Smith.....	R. D. Boulter, Tyler.
King.....	J. F. Witherspoon, Guthrie.	Somervell.....	R. L. Bryan, Glen Rose.
Kinney.....	John H. Stadler, Brackettville.	Starr.....	Sam P. Vale, Rio Grande City.

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
<b>TEXAS—contd.</b>		<b>UTAH.</b>	
Stephens.....	Emma T. Hope, Breckenridge.	Beaver.....	J. Frank Day, Beaver.
Sterling.....	B. T. Withers, Sterling City.	Boxelder.....	C. H. Skidmore, Brigham.
Stonewall.....	M. Sudle Abbott, Aspermont.	CACHE.....	R. V. Larson, Logan.
Sutton.....	L. W. Elliott, Sonora.	Carbon.....	D. C. Woodward, jr., Price.
Swisher.....	J. E. Swepten, Tulla.	Daggett.....	Paul C. Miner, Manila.
Tarrant.....	B. Carroll, Fort Worth.	Davis.....	H. C. Burton, Farmington.
Taylor.....	Ada D. Pearce, Abilene.	Duchesne.....	James H. Moore, Duchesne.
Terrell.....	G. J. Henshaw, Sanderson.	Emery.....	A. L. Leonard, Huntington.
Terry.....	D. J. Broughton, Brownfield.	Garfield.....	F. G. Gardiner, Panguitch.
Throckmorton.....	J. L. Smith, Throckmorton.	Grand.....	D. S. L. McCorkle, Moab.
Titus.....	P. H. Rogers, Mount Pleasant.	Iron.....	H. Claude Lewis, Cedar City.
Tom Green.....	J. H. Armstrong, San Angelo.	Juab.....	
Travis.....	Leon G. Halden, Austin.	Juab dist.....	Ray Stewart, Nephi.
Trinity.....	W. A. Reese, Groveton.	Tintic dist.....	I. L. Williamson, Eureka.
Tyler.....	Bronson C. Howell, Woodville.	Kane.....	D. D. Rust, Kanab.
Upshur.....	G. W. McPeak, Gilmer.	Millard.....	Alonzo Huntsman, Fillmore.
Upton.....	J. H. Felps, Rankin.	Morgan.....	J. R. Tippetts, Morgan.
Uvalde.....	Mamie Anthon, Uvalde.	Plute.....	D. H. Robinson, Junction.
Val Verde.....	Josephine Jones, Del Rio.	Rich.....	G. N. Weston, Laketown.
Van Zandt.....	B. E. Youngblood, Canton.	Salt Lake.....	
Victoria.....	Blanche Crutsinger, Victoria.	Granite dist.....	D. W. Parratt, Salt Lake City.
Walker.....	J. C. Thomas, Huntsville.	Jordan dist.....	D. C. Jensen, Sandy, R. F. D. 2.
Waller.....	Adice Cameron, Hempstead.	Sampete.....	
Ward.....	Geo. H. Tucker, Barstow.	North dist.....	J. W. Anderson, Mt. Pleasant.
Washington.....	Fredericke Turner, Brenham.	South dist.....	E. T. Reid, Manti.
Webb.....	B. Richardson, Laredo.	San Juan.....	Parley Woolsey, Blanding.
Wharton.....	Elizabeth McIver, Wharton.	Sovier.....	A. J. Ashman, Richfield.
Wheeler.....	L. D. Miller, Wheeler.	Summit.....	
Wichita.....	Burl Bryant, Wichita Falls.	North dist.....	David H. Fowler, Coalville.
Wilbarger.....	J. N. Fulcher, Vernon.	South dist.....	Howard V. Alston, Kamas.
Willacy.....	J. S. Thornham, Sarita.	Tooele.....	E. M. Reid, Tooele.
Williamson.....	Mary S. Sanders, Georgetown.	Uintah.....	Heber S. Olson, Vernal.
Wilson.....	J. E. Swift, Floresville.	Utah.....	
Winkler.....	Will A. Martin, Kermit.	Alpine dist.....	J. H. Walker, American Fork.
Wise.....	B. F. Roe, Decatur.	Nebo dist.....	L. J. Nuttall, jr., Spanish Fork.
Wood.....	J. U. Searcy, Quitman.	Wasatch.....	D. A. Broadbent, Heber City.
Yoakum.....	R. R. Moreland, Plains.	Washington.....	W. O. Bentley, jr., Sta. George.
Young.....	H. H. Avants, Graham.	Wayne.....	Joseph Hickman, Loa.
Zapata.....	J. M. Sanchez, Zapata.	Weber.....	B. A. Fowler, Ogden.
Zavala.....	N. H. Hunt, Crystal City.		
Supervision district.	District superintendent.	Supervision district.	District superintendent.
<b>VERMONT.</b>		<b>VERMONT—contd.</b>	
<b>Addison County:</b>		<b>Bennington County:</b>	
<i>Northwest district.</i>	W. L. Coggins.	<i>Central district.</i>	B. P. Hamlin, Manchester.
Addison,		Arlington,	
Ferrisburg,		Sunderland,	
Monkton,		Manchester,	
Panton,		Sandgate,	
Ver-gennes, Wal-		Dorset.	
tham.		<i>Southwest district.</i>	A. W. Varney, Bennington.
<i>Northeast district.</i>	W. A. Beebe, Bristol.	Bennington	
Bristol,		T., Glaston-	
Starksboro,		bury, North	
Lincoln, New		Pownal,	
Haven.		North Ben-	
<i>Central district.</i>	Arthur W. Eddy, Middlebury.	nington, Pownal, Shafts-	
Cornwall,		bury, Wood-	
Middlebury		ford.	
T., Middle-		<b>Caledonia County:</b>	
bury I., Rip-		<i>North district.</i>	Garfield A. Jamieson, West
ton, Wey-		West Burke	Burke.
bridge, Sals-		I., Burke T.,	
bury.		Sutton, New-	
<i>Southwest district.</i>	V. G. Smith, Orwell.	ark, East Ha-	
Shoreham,		ven.	
Bridport, Or-			
well, Benson,			
West Haven.			

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

Supervision district.	District superintendent.	Supervision district.	District superintendent.
<b>VERMONT—contd.</b>		<b>VERMONT—contd.</b>	
<b>Caledonia County—Contd.</b>		<b>Franklin County—Continued.</b>	
<i>North Central district.</i>	Martin E. Daniels, Lyndonville.	<i>North-east district.</i>	Edwin F. Greene, Richford.
Lyndonville		Richford,	
I., Lyndon I.,		Berkshire,	
Lyndon T.		Montgomery,	
Kirby, Sheffield, Wheelock.		<i>Southeast district.</i>	Erie R. Holmes, East Fairfield.
<i>South Central district.</i>	Harvey Burbank, Danville.	Bakersfield,	
Barnet,		Fairfield,	
Peacham,		Fletcher.	
Walden, Waterford, Danville.		<i>Fairfax district.</i>	E. W. Middleton, Fairfax.
<i>South district..</i>		Fairfax.	
Wells River		<b>Grand Isle County:</b>	
I., Newbury,	Leonard D. Smith, Wells River.	<i>Grand Isle district.</i>	Fred E. Cargill, Alburg.
Groton, Rye-gate.		Alburg, Isla	
<b>Chittenden County:</b>		La Moite,	
<i>East district...</i>	E. L. Clark, Richmond.	North Hero,	
Richmond,		South Hero,	
Jericho, Underhill I., Underhill T., Bolton.		Grand Isle.	
<i>Central district.</i>		<b>Lamoille County:</b>	
Essex Junction I., Essex T., Williston,	Minnie E. Hays, Essex Junction.	<i>East district...</i>	R. D. McAllister, Hyde Park.
Winooski I., Colchester.		Hyde Park,	
<i>South district..</i>		Waterville,	
Shelburne,	Burnham A. Colby, Shelburne.	Belvidere,	
Charlotte,		Eden, Wolcott.	
South Burlington, St. George, Huntington, Hinesburg.		<i>South district..</i>	Carlton D. Howe, Morrisville.
<b>Essex County:</b>		Morristown,	
<i>North district..</i>	B. E. Stover, North Stratford, N. H.	Stowe, Elmore.	
Canaan,		<i>Cambridge district.</i>	W. H. Venable, Jeffersonville.
Brighton, Norton, Lemington, Bloomfield, Brunswick.		Cambridge,	
<i>South district..</i>		<i>Johnson district.</i>	Ralph C. Mayo, Johnson.
Lunenburg,		Johnson.	
Concord,	S. C. Harding, Concord.	<b>Orange County:</b>	
Victory,		<i>East district...</i>	D. B. Locke, Bradford.
Granby,		Bradford,	
Guildhall,		Fairlee, Vershire, Corinth,	
Maldstone.		Cookville I., Topsham.	
<b>Franklin County:</b>		<i>Northwest district.</i>	M. A. Outland, Williamstown.
<i>Northwest district.</i>		Chelsea,	
Swanton,		Williamstown,	
Highgate, St. Albans T., Georgia, Milton T., Milton I., Westford.		Washington,	
<i>Central district.</i>		Orange.	
Enosburg		<i>Southwest district.</i>	Geo. W. Patterson, Randolph.
Falls I., Enosburg T., Franklin, Sheldon.		Randolph I.,	
		Randolph T.,	
		Brookfield,	
		Braintree.	
		<i>Southeast district.</i>	Ralph B. Low, South Strafford.
		Thetford,	
		West Fairlee,	
		Strafford, Norwich, Sharon.	
		<b>Orleans County:</b>	
		<i>North district..</i>	O. L. Dugan, Newport Ctr.
		North Troy,	
		Troy, Jay,	
		Westfield,	
		Lowell, Coventry, Irasburg,	
		Newport, New- port Ctr.	

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

Supervision district.	District superintendent.	Supervision district.	District superintendent.
<b>VERMONT—contd.</b>		<b>VERMONT—contd.</b>	
<b>Orleans County—</b> Continued. <i>East district...</i> Charleston, Holland, Morgan, Brown- ington, West- more. <i>Central district.</i> Barton I., Orleans J., Barton T., Glover, Al- bany. <i>South district.</i> Hardwick I., Hardwick T., Stannard, Craftsbury, Greensboro.	Edwin S. Boyd, West Charles- ton.  Clayton L. Erwin, Barton.  Clarence L. Cowles, Crafts- bury.	<b>Windham County:</b> <i>Northwest dis- trict.</i> London- derry, Weston, Winhall, Peru, Landgrove, Jamaica, Windham. <i>Central district.</i> Newfane, Townshend, Dover, Wards- boro, Grafton, Athens, Brook- line, Stratton, Marlboro. <i>Southeast dis- trict.</i> Dummers- ton, Gullford, Halifax, Put- ney, Vernon. <i>Southeast dis- trict.</i> Wilmington, Whittingham, Readsboro, Stamford, Somerset, Searsburg.	F. R. Adams, South London- derry.  C. H. Straliff, Townshend.  Ethel A. Eddy, Brattleboro.
<b>Rutland County:</b> <i>North district...</i> Brandon I., Brandon T., Hubbardton, Sudbury, Whiting, Lei- cester, Goshen, Chittenden, Pittsford. <i>Central district.</i> Castleton, West Rutland, Ira, Fair Ha- ven T., Fair Haven I., Rut- land T. <i>Southwest dis- trict.</i> Poultney, Wells, Middle- town Springs, Pawlet, Ru- pert. <i>South district...</i> Wallingford, Mendon, Clar- endon, Tin- mouth, Danby, Mt. Tabor.	M. A. Sturtevant, Brandon.  Philip R. Leavenworth, Castle- ton.  R. R. Morrow, W. Pawlet.  Mary A. Murphy, Wallingford.	<b>Windsor County:</b> <i>North district...</i> Bethel, Bethel T., Royalton, Tunbridge. <i>Central district.</i> Woodstock, Bridgewater, Barnard, Pomfret. <i>East district...</i> Hartland, West Windsor, Reading. <i>South district...</i> Chester, Weathersfield, Cavendish, Duttonville I., Baltimore, Andover. <i>West district...</i> Ludlow, Plymouth, M., Holly, Shrews- bury. <i>Northwest dis- trict.</i> Rochester I., Rochester T., Hancock, Granville, Pittsfield, Sherburne, Stockbridge. <i>Windsor dis- trict.</i> Windsor.	Frank E. Sawyer, Wilmington.  Philo G. Noon, South Royalton.  Evelyn L. Fuller, Woodstock.  Percy H. Blake, Chester.  Geo. B. Whitney, Ludlow.  L. L. Chamberlain, Rochester.  E. K. Boak, Windsor.
<b>Washington County:</b> <i>Northeast dis- trict.</i> Cabot, Calais, Woodbury, Marshfield. <i>Central district.</i> East Mont- pelier, Plain- field, Worces- ter, Middlesex, Moretown. <i>South district...</i> Northfield I., Northfield T., Roxbury, Berlin. <i>West district...</i> Waterbury, Duxbury, Fayston, War- ren, Waltsfield Barre Town district. Barre Town.	H. E. Jackman, Cabot.  Walter B. Lance, Plainfield.  Charles P. McKnight, North- field.  M. H. Willis, Waterbury.  Waldo Glover, Barre.		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
VIRGINIA.		VIRGINIA—contd.	
Accomac.....	G. C. Joynes, Onancock.	Prince Edward.....	T. J. McIlwaine, Hampden-Sidney.
Albemarle.....	A. L. Bennett, Charlottesville.	Prince George.....	R. K. Hoke, Hopewell.
Alexandria.....	Fletcher Kemp, Rosslyn.	Princess Anne.....	J. H. Carroll, Oceana.
Alleghany.....	J. G. Jeter, Covington.	Prince William.....	Chas. R. McDonald, Gainesville.
Amelia.....	W. R. Wigglesworth, Black-Stone.		E. L. Darst, Dublin.
Amherst.....	W. L. Tucker, Amherst.	Pulaski.....	H. D. Hite, Front Royal.
Appomattox.....	N. R. Featherston, Pamplin.	Rappahannock.....	Blake T. Newton, Hague.
Augusta.....	F. M. Somerville, Staunton.	Richmond.....	R. E. Cook, Salem.
Bath.....	Bruce R. Richardson, Hot Springs.	Roanoke.....	R. M. Irby, Lexington.
Bedford.....	C. M. Abbot, Bellevue.	Rockbridge.....	J. C. Myers, Harrisonburg.
Bland.....	J. A. Wagner, Bland.	Rockingham.....	R. N. Anderson, Lebanon.
Botetourt.....	E. A. Painter, Fincastle.	Russell.....	W. D. Smith, Gate City.
Brunswick.....	W. V. Valentine, Lawrenceville.	Shenandoah.....	C. V. Shoemaker, Woodstock.
Buchanan.....	M. L. Combs, Grundy.	Smyth.....	B. E. Copenhaver, Marion.
Buckingham.....	John A. Twyman, Wingina.	Southampton.....	Robert M. Newton, Franklin.
Campbell.....	J. J. Fray, Gladys.	Spotsylvania.....	J. H. Chiles, Fredericksburg.
Caroline.....	W. A. Vaughan, Bowling Green.	Stafford.....	W. D. Peyton, Fredericksburg, R. F. D. 2.
Carroll.....	J. Lee Cox, Woodlawn.	Surry.....	L. N. Savedge, Alliance.
Charles City.....	Herman L. Harris, Toano.	Sussex.....	W. W. Edwards, Yale.
Charlotte.....	E. H. Hall, Drakes Branch.	Tazewell.....	A. S. Greever, Tazewell.
Chesterfield.....	T. C. Williams, Chester.	Warren.....	(See Rappahannock.)
Clarke.....	L. D. Cline, Winchester.	Warwick.....	B. C. Charles, Denbigh.
Craig.....	F. H. Huffman, Captain.	Washington.....	W. J. Edmondson, Abingdon.
Culpeper.....	T. W. Hendricks, Culpeper.	Westmoreland.....	(See Richmond.)
Cumberland.....	R. M. Tisinger, Cumberland.	Wise.....	J. J. Kelly, jr., Wise.
Dickenson.....	D. D. French, Clintwood.	Wythe.....	J. A. C. Hurt, Wytheville.
Dinwiddie.....	J. H. Duane, Ford.	York.....	(See Warwick.)
Elizabeth City.....	J. H. Brent, Hampton.		
Essex.....	W. G. Rennolds, Center Cross.	WASHINGTON	
Fairfax.....	M. D. Hall, Burke.	Adams.....	Olive M. Hoffhine, Ritzville.
Fauquier.....	F. O. Smith, Warrenton.	Asotin.....	M. Kathryn Pharis, Asotin.
Floyd.....	Isaac L. Epperly, Floyd.	Benton.....	J. W. Gilkey, Prosser.
Fluvanna.....	T. H. Shepherd, Wilmington.	Chelan.....	E. C. Bowersox, Wenatchee.
Franklin.....	R. A. Prillaman, Rocky Mount	Clallam.....	Ina M. McNutt, Port Angeles.
Frederick.....	(See Clarke.)	Clarke.....	Chester F. Bennett, Vancouver.
Giles.....	R. H. Farrier, Newport.	Columbia.....	Bertha E. Windust, Dayton.
Gloucester.....	J. W. Kenney, Bena.	Cowlitz.....	Joseph Gardner, Kalama.
Goochland.....	J. Milton Shue, Goochland.	Douglas.....	Mrs. Annie M. Walker, Waterville.
Grayson.....	Kyle T. Cox, Independence.		Eva Hane, Republic.
Greene.....	A. W. Yowell, Peola Mills.	Ferry.....	Edith K. Peck, Pasco.
Greensville.....	Henry Maclin, North Emporia.	Franklin.....	Frances J. Cox, Pomeroy.
Halifax.....	H. J. Watkins, South Boston.	Garfield.....	J. Elmer Bovey, Ephrata.
Hanover.....	J. Walton Hall, Ashland.	Grant.....	Geneva A. Johnson, Montezano.
Henrico.....	A. C. Cooper, Richmond, Henrico Court House.	Grays Harbor.....	F. D. Newberry, Coupeville.
Henry.....	W. B. Gates, Martinsville.	Island.....	Edith Delanty, Port Townsend.
Highland.....	R. E. Mausy, Hightown.	Jefferson.....	Thos. E. Hulse, Seattle.
Isle of Wight.....	Gavin Rawls, Carrsville.		W. G. Callow, Port Orchard.
James City.....	(See Charles City.)	King.....	Dora W. Lee, Ellensburg.
King and Queen.....	(See Essex.)	Kitsap.....	C. M. Ryman, Goldendale.
King George.....	Mary Harwood, King George.	Kittitas.....	Z. May Melghen, Cheshals.
King William.....	R. M. Bell, Venter.	Klickitat.....	W. S. Shelton, Davenport.
Lancaster.....	Frank W. Lewis, Moratitico.	Lewis.....	Jean T. Fredson, Shelton.
Lee.....	W. A. Wygal, Jonesville.	Lincoln.....	M. Brinkerhoff, Okanogan.
Loudoun.....	O. L. Emerick, Purcellville.	Mason.....	Mrs. Arepta Murdock, South Bend.
Louisa.....	Frank T. West, Louisa.	Okanogan.....	Charlotte Spalding, Newport.
Lunenburg.....	A. B. Wilson, Victoria.	Pacific.....	Minnie D. Bean, Tacoma.
Madison.....	(See Greene.)		F. W. Cobb, Friday Harbor.
Mathews.....	G. G. Anderson, Saluda.	Pend Oreille.....	Emma Ratcliffe, Mount Vernon.
Mecklenburg.....	C. B. Green, Boydton.	Pierce.....	W. E. Miller, Stevenson.
Middlesex.....	(See Mathews.)	San Juan.....	J. A. Jacobson, Everett.
Montgomery.....	E. S. Hagan, Christiansburg.	Skagit.....	F. V. Yeager, Spokane.
Nansemond.....	R. Moore Williams, Driver.	Skamania.....	W. O. Cummings, Colville.
Nelson.....	W. E. Kidd, Livingston.	Snohomish.....	C. L. Carroll, Olympia.
New Kent.....	(See Charles City.)	Stevens.....	Mrs. May B. Watkins, Cathlamet.
Norfolk.....	James Hurst, Norfolk.	Thurston.....	Mary Gilliam, Walla Walla.
Northampton.....	D. W. Peters, Cape Charles.	Wahkiakum.....	Mrs. Jennie M. Robin, Bellingham.
Northumberland.....	(See Lancaster.)		H. A. Ellis, Colfax.
Nottoway.....	(See Amelia.)	Walla Walla.....	Mae L. Mark, Yakima.
Orange.....	C. P. Cowherd, Gordonsville.	Whitman.....	
Page.....	John H. Borton, Luray.	Yakima.....	
Patrik.....	J. Fay Reynolds, Stuart.		
Pittsylvania.....	F. B. Watson, jr., Chatham.		
Powhatan.....	P. C. Williams, Fine Creek Mills.		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
<b>WEST VIRGINIA.</b>		<b>WISCONSIN—CON.</b>	
Barbour.....	E. A. Hunt, Philippi.	Crawford.....	A. F. Schoonover, Gays Mills.
Berkeley.....	Palmer Keesecker, Martinsburg.	Dane.....	Sylvanus Ames, Stoughton.
Boone.....	M. T. Miller, Madison.	First dist.....	Thos. S. Thompson, Mount Horeb.
Braxton.....	W. B. Golden, Flatwoods.	Second dist.....	John Kelley, Juneau.
Brooke.....	S. C. Underwood, Wellsburg.		Katherine Conley, Sturgeon Bay.
Cabell.....	Edward Mays, Huntington.	Dodge.....	Vera C. Rehnstrand, Superior.
Calhoun.....	T. C. Cain, Grantsville.	Door.....	Earle Edes, Menomonie.
Clay.....	R. E. Black, Clay.	Douglas.....	Lillia E. Johnson, Eau Claire.
Doddridge.....	H. D. Snider, West Union.	Dunn.....	Mrs. G. W. Kinnear, Florence.
Fayette.....	J. T. Peters, Fayetteville.	Eau Claire.....	Orson B. Morse, Fond du Lac.
Gilmer.....	Dallas C. Bailey, Glenville.	Florence.....	Linda Schmidt, Crandon.
Grant.....	H. F. Groves, Petersburg.	Fond du Lac.....	F. E. Ralph, Lancaster.
Greenbrier.....	L. O. Haynes, Smoot.	Forest.....	John N. Burns, Monroe.
Hampshire.....	Arthur Slonaker, Dillons Run.	Grant.....	George V. Kelley, Princeton.
Hancock.....	H. O. Miller, New Cumberland.	Green.....	R. E. Hoskins, Dodgeville.
Hardy.....	E. A. Hawse, Baker.	Green Lake.....	Ida Bradley, Hurley.
Harrison.....	Carl S. Lawson, Clarksburg.	Iowa.....	Mae E. Hardie, Black River Falls.
Jackson.....	W. C. Casto, Ripley.	Iron.....	A. J. Thorne, Jefferson.
Jefferson.....	Isaac N. Bonham, Summit Point.	Jackson.....	Leah H. Diehl, Mauston.
Kanawha.....	Geo. W. Jenkins, jr., Charleston.	Jefferson.....	J. J. Kerwin, Silver Lake.
Lewis.....	Wade Linger, Weston.	Juneau.....	Thos. Frawley, Kewaunee.
Lincoln.....	G. L. Pauley, Hamlin.	Kenosha.....	Mrs. Blanche Chamberlain, Bangor.
Logan.....	E. F. Skaggs, Logan.	Kewaunee.....	W. W. Woolworth, Darlington.
Marion.....	I. A. Barnes, Fairmont.	La Crosse.....	Bertha Moss, Antigo.
Marshall.....	H. E. Carmichael, Moundsville.	La Fayette.....	W. S. Freeman, Merrill.
Mason.....	Alonso C. Kelly, Point Pleasant.	Langlade.....	Lillian L. Chloupek, Manitowoc.
Mercer.....	B. F. King, Princeton.	Lincoln.....	J. E. Giessel, Wausau.
Mineral.....	Luke McDowell, Keyser.	Manitowoc.....	Mrs. Gertrude Schwittay, Marinette.
Mingo.....	Floyd Evans, Kermit.	Marathon.....	Samuel Long, Montello.
Monongalia.....	Lynn Hastings, Morgantown.	Marquette.....	E. T. Griffin, Milwaukee.
Monroe.....	O. R. Houchins, Alderson.	Milwaukee.....	Harriet Hutson, Sparta.
Morgan.....	Jesse R. Tyson, Berkeley Springs.	Monroe.....	Sanford Wilson, Oconto.
McDowell.....	W. C. Cook, Welch.	Oconto.....	Martha Johnson, Rhinelander.
Nicholas.....	L. O. Bobbitt, Summersville.	Oneida.....	Florence Jenkins, Appleton.
Ohio.....	J. H. Lazear, Wheeling.	Outagamie.....	Richard F. Beger, Fredonia.
Pendleton.....	John A. Fultz, Franklin.	Ozaukee.....	Cynthia Carlisle, Durand.
Pleasants.....	G. C. McTaggart, St. Marys.	Pepin.....	H. B. Asterud, Ellsworth.
Pocahontas.....	Dougluss McNeill, Marlinton.	Pierce.....	Evelyn Weed, Balsam Lake.
Preston.....	D. K. Mason, Kingwood.	Polk.....	Alice Gordon, Stevens Point.
Putnam.....	W. W. Smith, Paradise.	Portage.....	Mrs. Ida Ehle, Phillips.
Raleigh.....	Otway F. Cooke, Beckley.	Price.....	Edith McEachron, Union Grove.
Randolph.....	Troy B. Wilmoth, Elkins.	Racine.....	R. B. Nolan, Richland Center.
Ritchie.....	J. F. Hatfield, Harrisville.	Richland.....	O. D. Antislid, Janesville.
Roane.....	B. Frank Jarvis, Spencer.	Rock.....	R. H. Burns, Ladysmith.
Summers.....	Lee Harper, Hinton.	Rusk.....	H. A. Aune, Baldwin.
Taylor.....	W. E. Leach, Grafton.	St. Croix.....	Jessie Martiny, Baraboo.
Tucker.....	R. E. King, Parsons.	Sauk.....	Mrs. Josephine Grafton, Hayward.
Tyler.....	C. R. Ingraham, Middlebourne.	Sawyer.....	L. D. Roberts, Shawano.
Upshur.....	W. O. Hinkle, Buckhannon.	Shawano.....	H. C. Dornbush, Plymouth.
Wayne.....	W. H. Peters, Wayne.	Sheboygan.....	Emma M. Lupinsky, Medford.
Webster.....	Sampson N. Miller, Webster Springs.	Taylor.....	Helen M. Berg, Whitehall.
Wetzel.....	F. M. Tuttle, New Martinsville.	Trempealeau.....	George E. Sanford, Viroqua.
Wirt.....	Leonard C. Dailey, Elizabeth.	Vernon.....	Arthur J. Austin, Eagle River.
Wood.....	Lawrence C. White, Parkersburg.	Vilas.....	Helen Martin, Elkhorn.
Wyoming.....	G. B. McGraw, Pineville.	Walworth.....	Lucy A. Leonard, Shell Lake.
		Washington.....	M. T. Buckley, West Bend.
		Washburn.....	G. B. Rhoads, Waukesha.
		Waukesha.....	R. C. Bigford, Manawa.
		Waupaca.....	Arthur Dietz, Wautoma.
		Waushara.....	R. E. Sanders, Oshkosh.
		Winnebago.....	Ruth Bennett, Wisconsin Rapids.
		Wood.....	
<b>WISCONSIN.</b>		<b>WYOMING.</b>	
A dams.....	Mrs. Mary Brearey, Friendship.	Albany.....	Mrs. N. Artise Erickson, Larame.
Ashland.....	Thomas F. O'Connell, Ashland.	Big Horn.....	Mrs. Bertha K. Van Devender, Basin.
Barron.....	Regina Kohten, Barron.	Campbell.....	Edith B. George, Gillette.
Bayfield.....	Jessie N. Smith, Washburn.	Carbon.....	Helen M. Irving, Rawlins.
Brown.....	E. A. Seymour, Green Bay.		
Buffalo.....	H. H. Liebenberg, Alma.		
Burnett.....	Anna Ryss, Grantsburg.		
Calumet.....	W. F. Stauss, Chilton.		
Chippewa.....	Anna Johnson, Chippewa Falls.		
Clark.....	O. J. Thompson, Neillsville.]		
Columbia.....	Laura B. Jamieson, Portage.		

## III.—COUNTY AND OTHER LOCAL SUPERINTENDENTS OF SCHOOLS—Continued.

County.	County superintendent.	County.	County superintendent.
<b>WYOMING—contd.</b>		<b>WYOMING—contd.</b>	
Converse.....	Marcia Hollinrake, Douglas.	Natrona.....	May Hamilton Casper.
Crook.....	Mrs. Barbara G. Andrews, Sundance.	Niobrara.....	C. W. Pfeifer, Lusk.
Fremont.....	Bessie Benson, Lander.	Park.....	Margaret E. Walsh, Cody.
Goshen.....	Mrs. Lulu C. Koenig, Torrington.	Platte.....	Edith M. Hawes, Wheatland.
Hot Springs.....	Mrs. Rose Garrison, Thermopolis.	Sheridan.....	Georgine Erlandson, Sheridan.
Johnson.....	Mrs. Margaret L. Smith, Buffalo.	Sweetwater.....	Mrs. Miriam W. Shedden, Rockspings.
Laramie.....	Anna M. Dobbin, Cheyenne.	Uinta.....	Mrs. Jennie M. Isherwood, Evanston.
Lincoln.....	Mrs. Myra E. Geer, Kemmerer.	Washakie.....	Mrs. Angeline Wild, Worland.
		Weston.....	Mrs. Frances McD. Harlow, Newcastle.

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
<b>ALABAMA.</b>			<b>ARIZONA—contd.</b>		
Alabama City....	5,432	E. J. Gilbert.	Globe.....	7,044	Walter P. Bland.
Albany.....	7,652	R. W. Cowart.	Jerome.....	4,030	J. O. Mullen.
Andalusia.....	4,023	L. E. Brown.	Mesa.....	3,036	H. E. Hendrix.
Anniston.....	17,734	David R. Murphey.	Miami.....	6,689	Charles R. Tupper.
Athens.....	3,323	J. Frank Jarrell.	Morenci.....	7,501	W. E. Lutz.
Attalla.....	3,462	Alice Coleman.	Nogales.....	5,199	G. H. MacDden.
Bessemer.....	18,674	L. L. Vann.	Phoenix.....	29,053	John D. Loper.
Birmingham.....	178,806	C. B. Glenn.	Prescott.....	5,010	S. H. Martin.
Brewton.....	2,682	L. O. Kyzar.	Tucson.....	20,292	Clinton E. Rose.
Brighton.....	3,665	H. M. Sharpe.	Winslow.....	3,730	C. C. Grover.
Carbon Hill.....	2,666		Yuma.....	4,237	
Decatur.....	4,752	W. W. Benson.			
Demopolis.....	2,779	C. B. Gamble.			
Dothan.....	10,034	B. B. Baker.			
Enterprise.....	3,013	Lloyd C. Warr.			
Eufaula.....	4,939	H. L. Upshaw.			
Fairfield.....	5,003	F. D. Graves.			
Florala.....	2,633	J. P. Doster.			
Florence.....	10,529	F. T. Appleby.			
Gadsden.....	14,737	W. C. Griggs.			
Girard.....	4,942	J. A. Lunceford.			
Greenville.....	3,471	R. L. Marchman.			
Huntsville.....	8,018	Frank W. Williams.			
Jasper.....	3,246	W. I. Powers.			
Le Nett.....	4,976	C. E. Lunceford.			
Mobile.....	60,777	S. S. Murphy.			
Montgomery.....	43,464	W. R. Harrison.			
Opelika.....	4,960	J. W. Watson.			
Ozark.....	2,518	J. Floyd Collins.			
Phoenix.....	5,432	J. C. McAuley.			
Piedmont.....	2,645	L. C. Pitts.			
Roanoke.....	3,841	L. L. James.			
Selma.....	15,589	Omer Carmichael.			
Sh. field.....	6,682	L. E. Creel.			
Talladega.....	6,546	J. A. Baxley.			
Troy.....	5,696	E. O. McQuee, jr.			
Tuscaloosa.....	11,996	J. M. Burnett.			
Tuscumbia.....	3,855	L. Lettwich.			
Union Springs.....	4,125	E. S. Pugh.			
<b>ALASKA.</b>			<b>ARKANSAS.</b>		
Juneau.....	3,058	John E. Lanz.	Arkadelphia.....	3,311	W. J. Brett.
<b>ARIZONA.</b>			Batesville.....	4,299	Sidney Pickens.
Bisbee.....	9,205	C. F. Philbrook.	Benton.....	2,933	Bert Lary.
Clifton.....	4,163	W. D. Baker.	Blytheville.....	6,447	Harvey H. Haley.
Douglas.....	9,916	R. E. Souers.	Brinkley.....	2,714	John Baumgartner.
Flagstaff.....	3,186	J. Q. Thomas.	Camden.....	3,238	W. F. Hall.
Glendale.....	2,737	C. A. McKee.	Clarendon.....	2,638	J. E. Howard.
			Conway.....	4,564	R. E. Womack.
			Crossett.....	2,707	D. C. Hastings.
			De Queen.....	2,517	Pearl Williamson.
			El Dorado.....	3,887	Donald MacQueen.
			Fayetteville.....	5,362	F. S. Root.
			Fordyce.....	2,996	J. R. Anders.
			Forest City.....	3,377	M. S. Smith, jr.
			Fort Smith.....	28,870	C. J. Tidwell.
			Harrison.....	3,477	W. D. Jeter.
			Helena.....	9,112	E. B. Tucker.
			Hope.....	4,790	D. L. Paisley.
			Hot Springs.....	11,695	Ury McKenzie.
			Jonesboro.....	9,334	J. P. Womack.
			Little Rock.....	65,142	R. C. Hall.
			Malvern.....	3,894	J. L. Pratt.
			Marianna.....	5,074	Fred MacChesney.
			Mena.....	3,441	Fred R. Angwin.
			Morrilton.....	3,010	H. A. Woodward.
			Newport.....	3,771	J. H. Patterson.
			North Little Rock.....	14,048	Thomas C. Abbott.
			Paragould.....	6,306	J. W. Ramsey.
			Pine Bluff.....	19,240	Junius Jordan.
			Prescott.....	2,691	C. M. Hirst.
			Rogers.....	3,318	J. W. Oliver.
			Russellville.....	4,505	Frank E. McAnear.
			Searcy.....	2,836	J. R. Bullington.
			Siloam Springs.....	2,599	W. F. Cameron.
			Stamps.....	2,564	H. J. Steele.
			Stuttgart.....	4,522	Charles F. Perrott.
			Texarkana.....	8,257	S. E. Green.



## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
ARKANSAS—contd.			CALIFORNIA—con.		
Trumann.....	2,598	C. E. Womack.	Redwood City....	4,020	A. E. Manteith.
Van Buren.....	5,224	D. M. Riffin.	Richmond.....	16,843	W. T. Helms.
West Helena.....	6,226	Broadus M. Smith.	Riverside.....	19,341	A. N. Wheelock.
Wynne.....	2,933	M. O. Alcorn.	Roseville.....	4,477	Warren Eich.
CALIFORNIA.			Sacramento.....	65,908	Charles C. Hughes.
Alameda.....	28,806	C. J. Du Four.	San Bernardino....	18,721	Arthur Walter.
Alhambra.....	9,096	Charles E. Barber.	San Diego.....	74,083	Percy R. Davis.
Anaheim.....	5,526	Charles C. Smith.	San Fernando.....	3,204	Henry C. Johnson.
Bakersfield.....	18,638	Charles E. Teach.	San Francisco.....	506,676	(See Los Angeles.)
Benicia.....	2,693	H. P. Short.	San Gabriel.....	2,640	Alfred Roncovieri.
Berkley.....	56,036	H. B. Wilson.	Sanger.....	2,578	John A. Bevington.
Brawley.....	5,399	H. F. Willebrandt.	San Jose.....	39,042	Jennie E. Radley.
Burbank.....	2,913	Leonard F. Collins.	San Leandro.....	5,708	Walter L. Bachrodt.
Burlingame.....	4,107	H. E. H. Ruggles.	San Luis Obispo....	5,895	W. O. Davies.
Calexico.....	6,223	F. F. Fanning.	San Mateo.....	5,979	Arthur H. Mahley.
Chico.....	9,339	Charles H. Camper.	San Rafael.....	5,512	Geo. W. Hall.
Coalinga.....	2,984	C. L. Geer.	Santa Ana.....	15,885	Oliver R. Hartzell.
Colton.....	4,282	G. H. Jantzen.	Santa Barbara.....	19,441	John A. Cranston.
Corona.....	4,129	Glen D. Wight.	Santa Clara.....	5,220	Paul E. Stewart.
Coronado.....	3,289	Fred A. Boyer.	Santa Cruz.....	10,917	C. W. Townsend.
Daly City.....	3,779	William J. Savage.	Santa Maria.....	3,943	John W. Linscott.
Dinuba.....	3,400	W. N. Davis.	Santa Monica.....	15,352	W. C. Conrad.
Dunsmuir.....	2,528	H. A. Burch.	Santa Paula.....	3,667	Horace M. Rebok.
East San Diego....	4,148	J. D. Simkins.	Santa Rosa.....	8,758	Charles D. Jones.
El Centro.....	5,464	A. P. Shibley.	Sausalito.....	2,790	Jerome O. Cress.
Eureka.....	12,923	George B. Albee.	Selma.....	3,158	C. O. Sharpe.
Fort Bragg.....	2,616	Preston W. Smith.	South Pasadena....	7,652	Charles Edgcomb.
Fresno.....	45,086	Wm. John Cooper.	South San Fran- cisco.....	4,411	George C. Bush.
Fullerton.....	4,415	C. A. Marcy.	Stockton.....	40,296	Lewis E. Adams.
Gilroy.....	2,862	E. E. Brownell.	Taft.....	3,317	Ansel S. Williams.
Glendale.....	13,536	R. D. White.	Tulare.....	3,539	James A. Joyce.
Grass Valley.....	4,006	J. S. Hennessy.	Turlock.....	3,394	A. W. Ray.
Hanford.....	5,888	C. E. Denham.	Upland.....	2,912	Della B. Heisser.
Hayward.....	3,487	Marvin L. Benson.			Mrs. Edith S. Tru- ler.
Hollister.....	2,781	G. E. Anderson.	Vallejo.....	21,107	Elmer L. Cave.
Huntington Park..	4,513	Willison L. Stuckey.	Venice.....	10,386	Lewis F. Ferrish.
Inglewood.....	3,286	G. W. Crozier.	Ventura.....	4,342	Arthur L. Vincent.
Lindsay.....	2,576	Sherman L. Brown.	Visalia.....	5,753	DeWitt Montgom- ery.
Lodi.....	4,850	R. J. Custer.			
Long Beach.....	55,593	W. L. Stephens.	Watsonville.....	5,013	T. S. MacQuiddy.
Los Angeles.....	576,673	Mrs. Susan M. Dor- sey.	Watts.....	4,629	James A. Davis.
Madera.....	3,444	O. S. Hubbard.	Whittier.....	7,997	S. H. Thompson.
Martinez.....	3,838	Alice E. Kelly.	Woodland.....	4,147	C. E. Dingle.
Marysville.....	5,461	L. P. Farris.			
Merced.....	3,974	C. S. Clark.	COLORADO.		
Mill Valley.....	2,564	Herbert H. Mat- thews.	Alamosa.....	3,171	G. W. Allen.
Modesto.....	9,241	W. E. Faught.	Boulder.....	11,006	William V. Casey.
Monrovia.....	5,480	A. R. Clifton.	Brighton.....	2,715	N. J. Rice.
Monterey.....	5,479	J. H. Graves.	Canon City.....	4,551	O. B. Drake.
Monterey Park.....	4,108	(See Alhambra.)	Colorado Springs..	30,105	Frederick H. Bair.
(P. O. Belvi- dera.)			Delta.....	2,622	Arthur J. Foster.
Napa.....	6,757	O. R. Hull.	Denver.....	250,491	Jesse H. Newlon.
National City.....	3,116	Guy Hudeins.	Durango.....	4,116	Emory E. Smiley.
Needles.....	2,807	John H. Thompson.	Englewood.....	4,356	W. E. Baker.
Oakland.....	216,261	Fred M. Hunter.	Florence.....	2,629	James P. Eskridge.
Ontario.....	7,280	C. W. Randall.	Fort Collins.....	8,755	A. H. Dunn.
Orange.....	4,584	Geo. C. Sherwood.	Fort Morgan.....	3,818	Isaac E. Stutsman.
Oroville.....	3,340	Louis A. Trempe.	Grand Junction....	8,665	R. E. Tope.
Oxnard.....	4,417	R. B. Haydock.	Greeley.....	10,958	G. E. Brown.
Pacific Grove.....	2,974	R. H. Down.	La Junta.....	4,964	Robert M. Tiley.
Palo Alto.....	5,900	A. C. Barker.	Lamar.....	2,512	E. C. Dilley.
Pasadena.....	45,354	John F. West.	Leadville.....	4,959	Joseph H. Walton.
Petaluma.....	6,226	Bruce H. Painter.	Longmont.....	5,848	C. C. Casey.
Piedmont.....	4,282	H. W. Jones.	Loveland.....	5,065	R. W. Truscott.
Pittsburg.....	4,715	Fred S. Ramsdell.	Montrose.....	3,581	Wm. Melcher.
Pomona.....	13,505	Guy V. Whaley.	Pueblo.....		
Porterville.....	4,097	W. A. Ferguson.	District No. 1..		James H. Ristey.
Red Bluff.....	3,104	J. D. Sweetney.	District No. 20 }	43,050	(John F. Keating.
Redding.....	2,982	Frank Forthchase.	Rocky Ford.....	3,746	R. J. Walters.
Redlands.....	9,571	Henry G. Clement.	Salt Lake.....	4,699	Edgar Kesser.
Redondo Beach....	4,913	C. A. Langworthy.	Sterling.....	8,415	John A. Saxena.
			Trinidad.....	10,906	H. M. Corning.
			Walsenburg.....	3,565	S. M. Andrews.

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Popula- tion, census of 1920.	Superintendent or supervising principal.	City.	Popula- tion, census of 1920.	Superintendent or supervising principal.
CONNECTICUT.			CONNECTICUT— continued.		
Ansonia.....	17,648	Richard T. Tobin.	Wethersfield.....	4,342	F. W. Barber.
Berlin.....	4,296	B. R. Showalter.	Windham (P. O.).....	13,801	Egbert A. Case.
Bethel.....	3,201	Frank A. Berry.	Willimantic.....		
Branford.....	6,627	Herman S. Lovejoy.	Winchester (P. O.).....	9,019	John Lund.
Bridgeport.....	143,555	Samuel J. Slawson.	Winsted.....		
Bristol.....	20,620	Karl A. Reiche.	Windsor.....	5,620	Daniel Howard.
Canton.....	2,549	W. M. Strong.	Windsor Locks.....	3,554	Leander Jackson.
Cheshire.....	2,855	D. C. Allen.			
Danbury.....	22,325	Frank K. Watson.	DELAWARE.		
Darien.....	4,184	James F. Williams.	Dover.....	4,042	W. B. Thornburgh.
Derby.....	11,238	John F. Pickett.	Milford.....	2,703	Robert E. Shilling.
East Hartford.....	11,648	Percival S. Barnes.	New Castle.....	3,854	Henry E. Snavely.
East Haven.....	3,520	Miss M. A. Lanphear.	Wilmington.....	110,168	David A. Ward.
East Windsor (P. O. Warehouse Point).....	3,741	Ernest W. Small.			
Enfield.....	11,719	Grover C. Bowman.	DISTRICT OF COLUMBIA.		
Essex.....	2,815	Mary G. Collamore.	Washington.....	437,571	F. W. Ballou.
Fairfield.....	11,475	Wm. E. Smith.			
Farmington.....	3,844	L. S. Mills.	FLORIDA.		
Glastonbury.....	5,592	Francis S. Knox.	Apalachicola.....	3,066	R. M. Dorsey.
Greenwich.....	22,123	Edwin C. Andrews.	Arcadia.....	3,479	P. G. Shaver.
Griswold.....	4,220	Frank H. P. Clement.	Bartow.....	4,203	C. A. Parker.
Groton.....	9,227	Fred'k H. Brewer. <sup>1</sup>	Bradentown.....	3,868	B. D. Gullett.
Guilford.....	2,803	Fred L. Drew.	Daytona.....	5,445	J. F. Eastham.
Hamden (P. O. New Haven).....	8,611	Margaret L. Keefe.	De Land.....	3,324	B. F. Ezell.
Hartford.....	138,036	Thomas S. Weaver.	Fernandina.....	5,457	O. T. Weaver.
Killingly.....	8,178	Horace F. Turner.	Fort Myers.....	3,678	W. D. Wilson.
Litchfield.....	3,180	Paul Dillingham.	Gainesville.....	6,860	F. W. Buchholz.
Manchester.....	18,370	Alfred F. Howes.	Jacksonville.....	91,558	F. A. Hathaway.
Mansfield.....	2,574	A. W. Greer.	Key West.....	18,749	U. S. Lowe.
Meriden.....	34,764	David Gibbs.	Kissimmee.....	2,722	D. B. Shaver.
Middletown.....	22,129	Edward B. Sellow.	Lake City.....	3,341	D. S. Dennard.
Milford.....	10,193	H. I. Mathewson.	Lakeland.....	7,062	G. E. Everett.
Montville.....	3,411	V. B. Moody.	Live Oak.....	3,103	J. A. Holmes.
Naugatuck.....	15,051	H. E. Chittenden.	Miami.....	29,571	Charles M. Fisher.
New Britain.....	59,316	Stanley H. Holmes.	Ocala.....	4,914	H. G. Shealy.
New Canaan.....	3,895	Henry W. Saxe.	Orlando.....	9,282	A. B. Johnson.
New Haven.....	162,537	Frank H. Beede.	Palatka.....	5,102	W. H. Cassels.
New London.....	25,688	Warren A. Hanson.	Pensacola.....	31,035	S. S. Edwards.
New Milford.....	4,781	John Pettibone.	Pitt City.....	3,729	A. L. Woodward.
Newtown.....	2,751	F. H. Johnston.	Quincy.....	3,118	R. M. Evans.
Norwalk.....	27,743	G. V. Buchanan.	St. Augustine.....	6,192	J. M. Crawl.
Norwich.....	29,685	Edward J. Graham.	St. Petersburg.....	14,237	Geo. M. Lynoh.
Plainfield.....	7,926	C. L. Butler.	Sanford.....	5,588	T. W. Lawton.
Plainville.....	4,114	Orrin L. Judd.	South Jacksonville.....	2,775	(See Jacksonville.)
Portland.....	3,644	J. F. Connolly.	Tallahassee.....	5,637	R. M. Sealey.
Plymouth (P. O. Terryville).....	5,942	H. S. Fisher.	Tampa.....	51,608	J. E. Knight.
Preston.....	2,743	S. Hussey Reed.	West Palm Beach.....	8,659	Agnes Ballard.
Putnam.....	8,397	Wm. L. MacDonald.	West Tampa.....	8,463	(See Tampa.)
Ridgefield.....	2,707	C. D. Bogart.			
Seymour.....	6,781	Clyde C. Clark.	GEORGIA.		
Shelton.....	9,475	Harry E. Fowler.	Albany.....	11,555	R. E. Brooks.
Simsbury.....	2,958	J. B. McLean.	Americus.....	9,010	J. E. Mathis.
Southington.....	8,440	Ernest C. Witham.	Athens.....	16,748	G. G. Bond.
Sprague.....	2,500		Atlanta.....	200,616	W. A. Sutton.
Stamford.....	5,407	Isadore Dunham.	Augusta.....	52,548	Lawton B. Evans.
Stamford.....	40,067	Frederick S. Camp.	Bainbridge.....	4,792	E. G. Elcan.
Stonington.....	10,236	W. R. Snyder.	Barnesville.....	3,059	Edward T. Holmes.
Stratford (P. O. Bridgeport).....	12,347	C. C. Thompson.	Brunswick.....	14,413	Chas. E. Dryden.
Suffield.....	4,070	H. B. Chapman.	Buford.....	2,500	W. N. Nunn.
Thomaston.....	3,993	Raymond N. Brown.	Canton.....	2,679	O. H. Hixon.
Thompson.....	5,065	E. F. Kimball.	Carrollton.....	4,363	J. N. Haddock.
Torrington.....	22,055	George J. Vogel.	Cartersville.....	4,350	L. C. Evans.
Trumbull.....	2,597	F. W. Knight.	Cedartown.....	4,053	J. E. Furks.
Vernon (P. O. Rockville).....	8,898	H. O. Clough.	College Park.....	3,622	L. O. Freeman.
Wallington.....	12,010	John W. Kratzer.	Columbus.....	31,125	R. B. Daniel.
Waterbury.....	91,715	B. W. Tinker.	Cordele.....	6,538	Gordon G. Singleton.
Waterford.....	3,935	(See Montville.)	Covington.....	3,203	H. B. Robertson.
Watertown.....	6,050	Gordon C. Swift.	Cuthbert.....	3,022	Robert G. Hall.
West Hartford.....	8,854	W. H. Hall.	Dalton.....	5,222	J. H. Watson.
Westport.....	5,114	John A. Young.	Dawson.....	3,504	H. O. Read.
			Decatur.....	6,150	G. W. Glausier.

<sup>1</sup> Chairman board of school visitors.

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
GEORGIA—contd.			ILLINOIS—contd.		
Douglas.....	3,401	W. A. Little.	Benld.....	3,316	W. E. Rutherford.
Dublin.....	7,707	W. P. Martin.	Benton.....	7,201	G. S. Wothers.
Eastman.....	2,707	C. O. Stubbs.	Berwyn.....	14,150	E. A. Wilson.
East Point.....	5,241	J. R. Campbell.	Bloomington.....	28,725	S. K. McDowell.
Eatonton.....	2,519	Joseph F. Muldrow.	Blue Island.....	11,424	J. E. Lemon.
Elberton.....	6,475	B. M. Grier.	Brookfield.....	3,589	E. N. Cassidy.
Fitzgerald.....	6,870	Urie J. Bennett.	Bushnell.....	2,716	T. W. Everitt.
Fort Valley.....	3,223	Ralph Newton.	Cairo.....	15,203	T. C. Clendenen.
Gainesville.....	6,272	J. A. Mershon.	Canton.....	10,928	G. W. Gayler.
Griffin.....	8,240	J. A. Jones.	Carbondale.....	6,267	J. Wray Henry.
Hawkinsville.....	3,070	M. W. Harris.	Carlinville.....	5,212	H. J. Blue.
Kirkwood.....	2,934	J. B. Lockhart.	Carmel.....	2,067	Mrs. Maude Chalfant.
Lagrange.....	17,038	F. F. Rowe.	Cartersville.....	3,404	S. J. Dixon.
Macon.....	52,995	C. H. Bruce.	Centralia.....	12,491	Roy Vail Jordan.
Manchester.....	2,776	M. O. McCord.	Champaign.....	15,373	W. W. Earnest.
Marietta.....	6,190	C. A. Keith.	Charleston.....	6,615	Earl W. Anderson.
Milledgeville.....	4,619	Kyle T. Alfriend.	Chester.....	2,904	Charles O. Todd.
Monroe.....	3,211	C. W. Reid.	Chicago.....	2,701,705	Peter A. Mortenson.
Moultrie.....	6,789	J. Harold Saxon.	Chicago Heights.....	19,453	Floyd T. Goodier.
Newnan.....	7,037	B. F. Pickett.	Christopher.....	3,430	E. F. Grizzell.
Pelham.....	2,640	T. H. Wilkinson.	Cicero.....	44,995	W. W. Lewton.
Porterdale.....	2,890	Ethel Belcher.	Clinton.....	5,598	Henry H. Edmunds.
Quitman.....	4,393	H. D. Knowles.	Collinsville.....	9,753	C. H. Dorris.
Rome.....	13,252	B. F. Quigg.	Danville.....	33,776	Gilbert P. Randle.
Sandersville.....	2,695	J. F. Lambert.	Decatur.....	43,818	John J. Richeson.
Savannah.....	33,252	Carleton B. Gibson.	De Kalb.....	7,571	F. R. Ritzman.
Statesboro.....	3,807	R. M. Monte.	Depue.....	2,525	D. G. Calvert.
Tallapoosa.....	2,719	A. L. Brewer.	Des Plaines.....	3,451	Edwin D. Mac Luckie.
Thomaston.....	2,502	Mark A. Smith.	Dixon.....	8,191	I. B. Potter.
Thomasville.....	8,196	B. B. Broughton.	Downers Grove.....	3,543	J. F. Reed.
Tifton.....	3,005	A. H. Moon.	Dundee.....	4,735	Osher Schlafier.
Toccoa.....	3,567	Edmund Wroe.	Duquoin.....	7,235	Joe Strickler.
Valdosta.....	10,783	A. G. Cleveland.	East Moline.....	8,675	D. B. Hoffman.
Vidalia.....	2,860		East St. Louis.....	66,747	D. Walter Potts.
Washington.....	4,208	W. T. Foster.	Edwardsville.....	5,336	C. F. Ford.
Waycross.....	18,068	A. G. Miller.	Effingham.....	4,024	J. F. Orsamore.
Waynesboro.....	3,311	Jack Lance.	Eldorado.....	5,004	John W. Allen.
Winder.....	3,335	J. P. Cash.	Elgin.....	27,454	Robert I. White.
IDAHO.			Elmhurst.....	4,594	Lydia Vautsmier.
Blackfoot.....	3,937	Ernest D. Bloom.	Evanston.....		
Boise.....	21,393	P. J. Zimmers.	District No. 75.....	37,234	Ernest A. Smith.
Burley.....	5,408		District No. 76.....	2,532	F. W. Nichols.
Caldwell.....	5,106	J. J. Rae.	Fairbury.....	2,754	E. W. Powers.
Coeur d'Alene.....	6,447	Theodore B. Shank.	Fairfield.....		H. D. Willone.
Idaho Falls.....	8,064	R. H. Snyder.	Farmington.....	2,631	Herschel Whittaker.
Kellogg.....	3,017	Mrs. Laura Butz.	Flora.....	3,558	E. A. Huff.
Lewiston.....	6,574	Joel Jenifer.	Forest Park.....	10,768	G. O. Lewis.
Malad City.....	2,598	David Wangsgard.	Frankfort Heights.....	3,423	Henry D. Bedford.
Montpelier.....	2,984	W. E. Morgan.	Freeport.....	19,669	C. E. Lannom.
Moscow.....	3,956	Philip H. Soulen.	Galesburg.....	4,742	S. E. Raines.
Nampa.....	7,621	W. F. Weisend.	Galva.....	23,834	Mrs. Myrtle R. Heer.
Pocatello.....	15,001	Walter R. Siders.	Geneva.....	2,974	T. W. Callihan.
Preston.....	3,235	John W. Condie.	Georgetown.....	3,375	F. U. White.
Rexburg.....	3,569	Willis A. Smith.	Glenview.....	3,061	J. M. Edman.
St. Anthony.....	2,957	J. F. Lewis.	Glenwood.....	4,063	H. M. Coultrap.
Sandpoint.....	2,876	J. L. Breckenridge.	Glenview.....	3,381	Bertram Rees.
Twin Falls.....	8,324	M. C. Mitchell.	Glenview.....	2,851	L. E. Wilhite.
Wallace.....	2,816	C. D. Brock.	Glenview.....	14,757	Arthur B. Rowell.
Weiser.....	3,154	D. C. Neifert.	Glenview.....	3,091	J. Grove Butler.
ILLINOIS.			Glenview.....	7,125	L. P. Frohardt.
Abingdon.....	2,721	S. E. Le Marr.	Harrisburg.....	3,294	Alex Long.
Alton.....	24,682	W. R. Curtis.	Harvard.....	9,216	T. O. Elliott.
Anna.....	3,019	E. F. McLaughlin.	Harvey.....	3,294	Chas. O. Haskell.
Auburn.....	2,660	H. F. Mengel.	Havana.....	9,216	F. L. Miller.
Aurora:			Herrin.....	10,986	David A. Aldstadt.
East side.....	36,397	C. M. Bardwell.	Highland.....	2,902	John R. Creek.
West side.....	3,815	H. T. McKinney.	Highland Park:		C. L. Dietz.
Averyville (P. O., Peoria).....	4,395	H. C. Storm.	District No. 107.....	6,167	Jesse L. Smith.
Batavia.....	7,111	H. G. Russell.	District No. 108.....	5,074	Clark G. Wright.
Beardstown.....	24,823	A. L. Odenweller.	Hillsboro.....	4,042	H. J. Beckemeyer.
Belleville.....	7,804	J. H. Smith.	Hinsdale.....	5,451	A. F. Cook.
Belvidere.....			Hoopeston.....	15,713	W. R. Lowery.
			Jacksonville.....	3,839	H. A. Parrin.
			Jerseyville.....	7,137	J. A. Egelhof.
			Johnston City.....		Nat. Boomer.

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Popula- tion, census of 1920.	Superintendent or supervising principal.	City.	Popula- tion, census of 1920.	Superintendent or supervising principal.
ILLINOIS—contd.			ILLINOIS—contd.		
Joliet.	38,442	J. O. Engleman.	Streator.	14,779	H. B. Fisher.
Kankakee.	16,753	A. P. Johnson.	Sullivan.	2,532	O. B. Lowe.
Kewanee.	16,026	Charles Bruner.	Summit.	4,019	D. L. O'Sullivan.
La Grange.	6,525	Almor S. Anderson.	Sycamore.	3,602	O. E. Peterson.
Lake Forest.	3,657	John E. Baggett.	Taylorville.	5,806	Edgar S. Jones.
La Salle.	13,050	J. B. McManus.	Toluca.	2,503	T. F. McLamarrah.
Lawrenceville.	5,080	Marion Moore.	Tuscola.	2,564	H. H. Kirkpatrick.
Lincoln.	11,882	D. F. Nickols.	Urbana.	10,244	William Harris.
Litchfield.	6,215	Louise Bockewitz.	Vandalia.	3,316	Harry E. Slusser.
Lockport.	2,684	T. B. Walling.	Venice.	3,895	S. J. McComis.
Lyons.	2,564	John W. Costello.	Virdeu.	4,682	G. C. Mayhew.
Macomb.	6,714	Ernest Iler.	Watseka.	2,817	V. I. Brown.
Madison.	4,996	Henry S. Stice.	Waukegan.	18,226	John S. Clark.
Marion.	9,582	C. J. Ramsay.	West Chicago.	2,594	H. E. McKellar.
Marseilles.	3,391	C. V. McAlpine.	West Frankfort.	8,478	C. A. Waller.
Mattoon.	13,552	H. B. Black.	West Hammond	7,492	Otis W. Glamore.
Maywood.	12,072	Eugene La Rowe.	(P. O. Ham- mond, Ind.).		
Melrose Park.	7,147	R. E. Beebe.	Westville.	4,241	
Mendota.	3,934	C. A. McGinnis.	Wheaton.	4,137	J. B. Russell.
Metropolis.	5,055	Lewis A. Mahoney.	Whitehall.	2,954	Clyde Stone.
Moline.	30,734	L. L. Caldwell.	Wilmette.	7,814	J. R. Harper.
Monmouth.	8,116	K. C. Merrick.	Winnetka.	6,694	C. W. Washburne.
Morris.	4,505	William E. Weaver.	Wood River.	3,476	G. A. Smith.
Morrison.	3,000	M. C. Hunt.	Woodstock.	5,523	Richard W. Bard- well.
Mound City.	2,756	John H. Bower.	Zion.	5,580	Joseph L. Bishop.
Mounds.	2,661	E. W. Martin.			
Mount Carmel.	7,456	J. Orin Powers.	INDIANA.		
Mount Olive.	3,503	S. B. Hendricks.	Alexandria.	4,172	F. W. Stoler.
Mount Vernon.	9,815	S. J. Shomaker.	Anderson.	29,767	W. A. Denny.
Murphysboro.	10,703	O. A. Waterman.	Angola.	2,650	H. B. Allman.
Naperville.	3,830	C. W. Conrad.	Attica.	3,392	W. F. Mullinnix.
Nokomis.	3,465	Chester F. Miller.	Auburn.	4,650	O. W. Youngblood.
Normal.	5,143	F. E. Deyoe.	Aurora.	4,299	J. R. Houston.
North Chicago.	5,839	W. J. Hamilton.	Bedford.	9,076	E. W. Montgomery.
Oak Park.	39,858	N. M. Mason.	Bicknell.	7,635	I. D. Reedy.
Oglesby.	4,135	H. W. Hostettler.	Bloomington.	11,595	E. E. Ramsey.
Olney.	4,491	C. J. Byrne.	Bluffton.	5,391	P. A. Allen.
Ottawa.	10,816	J. L. Hart.	Boonville.	4,451	William F. Vogel.
Pana.	6,122	H. M. Hinkle.	Brazil.	9,293	Chas. P. Keller.
Paris.	7,955	Sanford E. Merrill.	Clinton.	10,962	Geo. W. McRey- nolds.
Park Ridge.	3,383	O. J. Bainum.	Columbia City.	3,499	Mary E. Hallowell.
Paxton.	3,033	(R. Y. Allison (high school). Robert C. Smith	Columbus.	8,990	Donald Du Shane.
Pekin.	12,086	(grades). A. W. Beasley.	Connersville.	9,901	Edwin C. Dodson.
Peoria.	76,121	A. H. Karn.	Crawfordsville.	10,139	Anna Willson.
Peru.	8,869	(S. J. Harry Wilson	Crown Point.	3,232	J. M. Gelsier.
Pinckneyville.	2,649	high school). R. R. Pyatt (grades).	Decatur.	4,762	M. F. Worthman.
Pontiac.	6,664	G. J. Koons.	Dunkirk.	2,532	R. D. Shaffer.
Princeton.	4,126	C. B. Smith.	East Chicago.	35,967	Edwin N. Canine.
Quincy.	35,978	Chas. M. Gill.	Elkhart.	24,777	J. F. Wiley.
River Forest (P. O., Oak Park).	4,358		Elwood.	10,790	Arthur W. Konold.
Riverside.	2,332	A. F. Ames.	Evansville.	85,264	L. P. Benezet.
Robinson.	3,375	Harry E. Green.	Fort Wayne.	85,549	L. C. Ward.
Rochelle.	3,310	O. N. Wing.	Frankfort.	11,585	W. R. Hough.
Rock Falls.	2,927	Mary E. Canode.	Franklin.	4,909	J. C. Webb.
Rockford.	65,651	E. E. Lewis.	Garrett.	4,796	George C. Carroll.
Rock Island.	35,177	E. C. Fisher.	Gary.	55,378	William Wirt.
Roodhouse.	2,928	G. K. Hutchens.	Gas City.	2,870	N. J. Lasher.
St. Charles.	4,099	G. E. Thompson.	Goshen.	9,525	J. W. Foreman.
Salem.	3,457	N. E. Jaycox.	Greencastle.	3,780	B. W. Kelly.
Savanna.	5,337	C. H. Le Vitt.	Greenfield.	4,168	Z. M. Smith.
Sesser.	2,441	R. Everett Carlton.	Greensburg.	5,345	Elmer C. Jerman.
Shelbyville.	3,668	R. C. Sayre.	Hammond.	36,004	Edwin S. Monroe.
Silvis.	2,441	Paul G. Silas.	Hartford City.	6,183	A. L. Frantz.
Sparta.	3,340	Lawrence D. Watson	Hobart.	3,450	A. E. Condon.
Springfield.	59,193	I. M. Allen.	Huntingburg.	3,261	Henry W. A. Hem- mer.
Springvalley.	6,493	Clifford L. Sarver.	Huntington.	14,000	M. S. Scudder.
Stanton.	6,027	Wm. E. Eccles.	Indianapolis.	314,194	E. U. Graff.
Stirling.			Jasonville.	4,461	E. A. O'Dell.
District No. 10.		A. L. Hill.	Jasper.	2,639	Marjaret A. Wilson.
District No. 11.	8,182	Clarence Selby.	Jeffersonville.	10,098	E. G. McCullum.
			Kendallville.	5,273	

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
INDIANA—contd.			IOWA—continued.		
Kokomo.....	30,067	C. V. Haworth.	Davenport.....	56,727	Frank L. Smart.
La Fayette.....	22,486	D. W. Horton.	Decorah.....	4,639	C. C. Gamertsfelder.
Laporte.....	15,158	A. L. Trester.	Denison.....	3,381	C. E. Humphrey.
Lawrenceburg.....	3,466	Jesse W. Riddle.	Des Moines.....	126,468	J. W. Studebaker.
Lebanon.....	6,257	Paul Van Riper.	Dubuque.....	39,141	O. P. Flower.
Linton.....	5,856	Slater Bartlow, Jr.	Eagle Grove.....	4,433	W. H. Fasold.
Logansport.....	21,626	James W. Wilkinson.	Eldora.....	3,189	Will A. Pye.
Madison.....	6,711	E. O. Muncie.	Emmetsburg.....	2,762	C. I. Buly.
Marion.....	23,747	A. E. Highley.	Estherville.....	4,690	F. H. Sunderhn.
Martinsville.....	4,895	Marion S. Mahan.	Fairfield.....	5,948	C. F. Garrett.
Michigan City.....	19,457	L. W. Keeler.	Fort Dodge.....	19,747	L. H. Minkel.
Mishawaka.....	15,195	P. C. Emmons.	Fort Madison.....	12,666	A. I. Tiss.
Mitchell.....	3,025	J. H. Shipp.	Glenwood.....	3,362	B. K. Orr.
Monticello.....	2,536	Harry E. Elder.	Grinnell.....	5,362	Eugene Henely.
Mount Vernon.....	5,284	W. S. Painter.	Hampton.....	2,092	H. L. Cecil.
Muncie.....	36,524	T. F. Fitzgibbon.	Harlan.....	2,331	Mary J. Wyland.
Nappanee.....	2,678	F. E. Young.	Independence.....	3,672	Thos. R. Roberts.
New Albany.....	22,992	H. A. Buerk.	Indianola.....	3,328	O. E. Smith.
Newcastle.....	14,458	E. J. Llewelyn.	Iowa City.....	11,267	I. A. Opstad.
Noblesville.....	4,758	W. A. Stockinger.	Iowa Falls.....	3,354	O. S. Von Krog.
North Manchester.....	2,711	Homer F. Humka.	Jefferson.....	3,416	T. B. Stewart.
North Vernon.....	3,084	C. E. Sandefur.	Keokuk.....	14,423	R. L. Reid.
Peru.....	12,410	E. J. Black.	Knoxville.....	3,223	N. H. Ringstrom.
Plymouth.....	4,338	C. R. Stallings.	Le Mars.....	4,683	Ray Latham.
Portland.....	5,958	Grant E. Derby- shire.	Manchester.....	3,111	J. S. Hilliard.
Princeton.....	7,132	J. W. Stott.	Maquoketa.....	3,626	B. S. Moyle.
Rensselaer.....	2,912	C. R. Dean.	Marion.....	4,138	Paul Cutler.
Richmond.....	26,765	A. G. Bate.	Marshalltown.....	15,731	Wm. F. Shirley.
Rochester.....	3,720	W. L. Whitmer.	Mason City.....	20,065	Frank T. Vasey.
Rockport.....	2,581	J. H. Diehl.	Missouri Valley.....	3,985	Lorne F. Smylie.
Rushville.....	5,498	J. H. Scholl.	Mount Pleasant.....	3,987	C. W. Cruikshank.
Salem.....	2,336	N. F. Hutchison.	Muscatine.....	16,068	Samuel A. Potts.
Seymour.....	7,348	T. A. Mott.	Mystic.....	2,796	Chas. C. Foley.
Shelbyville.....	9,701	J. W. Holton.	Nevada.....	2,668	T. B. Warren.
South Bend.....	70,983	W. W. Borden.	New Hampton.....	2,539	P. C. Lapham.
Sullivan.....	4,489	A. W. Youngblood.	Newton.....	6,627	Grover H. Alder- man.
Tell City.....	4,086	C. Newman.	Oelwein.....	7,455	A. W. Moore.
Terre Haute.....	66,083	James M. Tilley.	Osage.....	2,878	Geo. H. Sawyer.
Tipton.....	4,507	C. E. Spaulding.	Osceola.....	2,684	Daniel B. Heller.
Union City.....	3,406	Roy P. Wisehart.	Oskaloosa.....	9,427	J. I. Lynch.
Valparaiso.....	6,518	C. W. Boucher.	Ottumwa.....	23,003	H. E. Blackmar.
Vincennes.....	17,160	Edgar N. Haskins.	Pella.....	3,338	F. M. Frush.
Wabash.....	9,872	Owen J. Neighbours.	Perry.....	5,642	Henry W. Chehock.
Warsaw.....	5,478	James M. Leffel.	Red Oak.....	5,678	J. R. Inman.
Washington.....	8,743	R. N. Tirey.	Sac City.....	2,630	Sebastian Lake.
West Lafayette.....	3,830	F. A. Burtsfield.	Sheldon.....	3,488	F. H. Chandler.
West Terre Haute.....	4,310	T. V. Pruitt.	Shenandoah.....	5,255	E. B. Delzell.
Whiting.....	10,145	J. H. Hoskinson.	Sioux City.....	71,227	Melvin G. Clark.
Winchester.....	4,021	Oscar R. Baker.	Spencer.....	4,599	J. R. McAnelly.
IOWA.			Storm Lake.....	3,658	Walter D. Cocking.
Albia.....	5,067	G. H. Brinegar.	Tama.....	2,601	A. R. Finley.
Algona.....	3,724	J. F. Overmyer.	Valley Junction.....	3,631	C. B. Hightower.
Ames.....	6,270	E. J. Bodwell.	Vinton.....	3,381	K. D. Miller.
Anamosa.....	2,381	H. M. Stiles.	Washington.....	4,697	W. C. Harding.
Atlantic.....	5,329	E. H. Bosshard.	Waterloo:		
Belle Plaine.....	3,887	James R. McVicker.	East side.....		Chas. W. Kline.
Boone.....	12,451	G. S. Wooten.	West side.....	36,230	H. D. Lee.
Burlington.....	24,057	E. M. Sipple.	Waverly.....	3,352	T. M. Clevenger.
Carroll.....	4,254	E. J. Housh.	Webster City.....	5,657	E. R. Sifert.
Cedar Falls.....	6,316	F. L. Mahannah.	Winterset.....	2,906	Maurice R. Hassel.
Cedar Rapids.....	45,566	Arthur Deamer.	KANSAS.		
Centerville.....	8,486	H. M. Taylor.	Abilene.....	4,895	W. A. Stacey.
Charlton.....	5,175	J. R. Coughlin.	Anthony.....	2,740	O. H. Werner.
Charles City.....	7,350	Claude F. Brown.	Arkansas City.....	11,253	C. E. St. John.
Cherokee.....	5,824	Lester C. Ary.	Atchison.....	12,630	H. P. Study.
Clarinda.....	4,511	E. L. Weaver.	Augusta.....	4,219	G. H. Marshall.
Clarion.....	2,826	Chas. E. Pratt.	Baxter Springs.....	3,608	S. B. Apple.
Clear Lake.....	2,804	C. H. Ream.	Beloit.....	3,315	W. O. Steen.
Clinton.....	24,151	Frank W. Hicks.	Caney.....	3,427	A. M. Herron.
Colfax.....	2,504	D. M. Kelly.	Chanute.....	10,286	J. F. Hughes.
Council Bluffs.....	36,162	Theodore Saam.	Cherryvale.....	4,696	Glenn A. DeLay.
Cresco.....	3,195	A. R. Triffany.	Clay Center.....	3,715	Emil Kratochvil.
Creston.....	8,034	Arthur W. Crane.	Codeville.....	13,432	A. I. Decker.

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
<b>KANSAS—contd.</b>			<b>KENTUCKY—con.</b>		
Columbus.....	3,155	M. S. Catlett.	Highland Park...	3,979	T. B. Sporing.
Concordia.....	4,706	W. E. Sheffer.	Hopkinsville.....	9,696	J. C. Waller.
Council Grove...	2,857	J. J. Haney.	Irvine.....	2,705	J. P. W. Brouse.
Dodge City.....	5,061	R. E. Long.	Jenkins.....	4,707	Leon B. Stephan.
Eldorado.....	10,995	J. W. Murphy.	Lebanon.....	3,239	J. R. Sterrett.
Emporia.....	11,273	L. A. Lowther.	Lexington.....	41,534	M. A. Cassidy.
Eureka.....	2,606	C. U. Phillips.	Louisville.....	234,691	Zenos E. Scott.
Fort Scott.....	10,693	M. A. Rose.	Ludlow.....	4,582	W. D. Reynolds.
Fredonia.....	3,954	E. A. Elliott.	Madisonville.....	5,030	Harper Gatton.
Frontenac.....	3,225	Frank E. Alsop.	Mayfield.....	6,583	D. W. Bridges.
Galena.....	4,712	M. D. Thudium.	Maysville.....	6,107	W. J. Caplinger.
Garden City.....	3,848	C. I. Vinsonbaler.	Middlesboro.....	8,041	J. W. Runcie.
Girard.....	3,161	T. E. Osborn.	Morganfield.....	2,651	R. T. Whittinghill.
Goodland.....	2,664	J. R. Reed.	Mount Sterling...	3,995	H. A. Babb.
Great Bend.....	4,460	Chas. F. Grabske.	Newport.....	29,317	E. F. Sporing.
Hays.....	3,165	Charles A. Shively.	Nicholasville.....	2,786	H. L. Smith.
Herington.....	4,065	E. E. Mitchell.	Oakdale.....	3,198	
Hiaawatha.....	3,222	A. K. Loomis.	Owensboro.....	17,424	J. L. Foust.
Holton.....	2,703	Neal M. Wherry.	Paducah.....	24,735	Ralph Yakel.
Horton.....	4,009	Fred M. Thompson.	Paris.....	6,310	Lee Kirkpatrick.
Humboldt.....	2,525	T. A. Edgerton.	Pineville.....	2,908	R. H. Shipp.
Hutchinson.....	23,292	J. O. Hall.	Princeton.....	3,689	I. J. Mars.
Independence.....	11,920	C. S. Eldson.	Providence.....	4,151	Jay F. Chambers.
Iola.....	8,513	Chas. A. Wagner.	Richmond.....	5,622	John H. Payne.
Junction City.....	7,583	J. H. Clement.	Russellville.....	3,124	C. T. Canon.
Kansas City.....	101,177	M. E. Pearson.	Shelbyville.....	3,760	Mark Todman.
Larned.....	3,139	R. V. Phinney.	Somerset.....	4,672	R. E. Hill.
Lawrence.....	12,456	Harry P. Smith.	Winchester.....	8,333	Clarence E. Ackley.
Leavenworth.....	16,912	Ira J. Bright.			
Liberal.....	3,613	Andrew B. Steele.			
Lyons.....	2,516	J. J. Yoder.			
McPherson.....	4,595	R. W. Potwin.			
Manhattan.....	7,989	E. B. Gift.			
Marysville.....	3,048	C. O. Smith.			
Mulberry.....	2,907	J. C. Butler.			
Neodesha.....	3,943	V. M. Liston.			
Newton.....	9,781	B. F. Martin.			
Olathe.....	3,268	E. N. Hill.			
Oswatimie.....	4,772	C. A. Axton.			
Ottawa.....	9,018	A. F. Senter.			
Paola.....	3,234	O. C. Graber.			
Parsons.....	16,028	H. D. Ramsey.			
Pittsburg.....	18,052	John F. Bender.			
Pratt.....	5,183	W. A. Wood.			
Rosedale.....	7,674	Armon P. Vaughn.			
Salina.....	15,085	W. S. Heusner.			
Topeka.....	50,022	A. J. Stout.			
Wellington.....	7,048	A. D. Catlin.			
Wichita.....	72,217	L. W. Mayberry.			
Winfield.....	7,933	J. W. Gowans.			
<b>KENTUCKY.</b>			<b>LOUISIANA.</b>		
Ashland.....	14,729	J. W. Bradner.	Abbeville.....	3,461	J. H. Williams.
Bellevue (P. O., Newport).	7,379	Vaught Mills.	Alexandria.....	17,510	W. J. Avery.
Bowling Green.....	9,638	T. C. Cherry.	Baton Rouge.....	21,782	P. H. Griffith.
Catlettsburg.....	4,183	W. M. Wilson.	Bogalusa.....	8,245	F. C. Ratliff.
Central City.....	3,106	W. C. Bell.	Covington.....	2,942	A. J. Park.
Corbin.....	3,406	Wm. Richie.	Crowley.....	6,108	J. R. De Moss.
Covington.....	57,121	Harry S. Cox.	De Ridder.....	3,535	H. A. Buie.
Cynthiana.....	3,857	William E. Selin.	Donaldsonville.....	3,745	B. C. Alwes.
Danville.....	5,099	L. C. Bosley.	Eunice.....	3,272	A. A. Sibley.
Dayton.....	7,646	R. H. Brown.	Franklin.....	3,504	A. B. Murray.
Earlington.....	3,652	J. Arthur Mitchell.	Gretna.....	7,197	J. C. Ellis.
Elizabethtown.....	2,530	John C. Pirtle.	Hammond.....	3,855	W. J. Dunn.
Fort Thomas.....	5,028	C. R. Rounds.	Homer.....	3,305	P. C. Rogers, jr.
Frankfort.....	9,805	J. W. Ireland.	Houma.....	5,160	H. L. Bourgeois.
Franklin.....	3,154	D. H. Lyon.	Jeanerette.....	2,512	W. L. Colvin.
Fulton.....	3,415	V. L. Broyles.	Jennings.....	3,824	W. D. Boltrott.
Georgetown.....	3,903	L. G. Wesley.	Kentwood.....	3,059	J. A. Arnett.
Glasgow.....	2,559	E. B. Terry.	La Fayette.....	7,855	T. C. Wiggins.
Harlan.....	2,647	W. D. Jones.	Lake Charles.....	13,088	Ward Anderson.
Harrodsburg.....	3,765	A. K. McKemie.	Leesville.....	2,518	A. H. Nanney.
Hazard.....	4,348	P. H. Neblett.	Mansfield.....	2,564	J. Luther Jordan.
Henderson.....	12,169	C. E. Dudley.	Merryville.....	2,963	Edward J. Brown.
Hickman.....	2,633	J. M. Calvin.	Minden.....	6,105	E. S. Richardson.
			Monroe.....	12,675	E. L. Neville.
			Morgan City.....	5,429	Joe Farrar.
			Natchitoches.....	3,388	M. C. Taylor.
			New Iberia.....	6,278	L. G. Porter.
			New Orleans.....	387,219	M. G. Winn.
			Oakdale.....	4,016	Bertram W. Max- well.
			Opelousas.....	4,437	Paul D. Pavy.
			Patterson.....	2,538	E. A. Crowell.
			Plaquemine.....	4,632	Harry De La Rue.
			Rayne.....	2,720	L. V. Pourciau.
			Ruston.....	3,349	H. E. Townsend.
			Shreveport.....	43,874	C. E. Byrd.
			Slidell.....	2,958	T. H. McAfee.
			Thibodaux.....	3,526	W. S. Lafargue.
			Winfield.....	2,975	A. Leonard Allen.
			<b>MAINE.</b>		
			Anson.....	2,593	Mrs. L. A. Brad- bury, North An- son.
			Auburn.....	16,985	H. H. Randall.
			Augusta.....	14,114	Herman H. Stuart.





## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
<b>MASSACHUSETTS— continued.</b>			<b>MASSACHUSETTS— continued.</b>		
Harvard.....	2,546	George B. Clarke, East Pepperell. (See Hadley.)	Shrewsbury.....	3,708	C. R. Stacy.
Hatfield.....	2,451	Alfred L. Barbour. (See Cohasset.)	Somerset.....	3,520	Frederic W. King- man.
Haverhill.....	53,884	Adolph O. Chris- tiansen.	Somerville.....	93,091	Charles S. Clark.
Hingham.....	5,604	J. R. Childs.	South Hadley.....	5,527	F. E. Whittemore.
Holbrook.....	3,161	C. Edward Fisher.	Southbridge.....	14,245	Fred E. Corbin.
Holden.....	2,970	William R. Peck.	Spencer.....	5,930	Irving H. Agard.
Holliston.....	2,707	Carroll H. Drown.	Springfield.....	129,614	James H. Van Sickle.
Holyoke.....	60,203	Bertram D. Brown.	Stoneham.....	7,873	Frederick W. Porter.
Hopedale.....	2,777	Joseph I. Horton.	Stoughton.....	6,865	L. W. Robbins.
Hudson.....	7,607	Mrs. Julia Morton.	Sutton (P. O., Auburn).....	2,578	Henry H. Pratt.
Ipswich.....	6,201	Bernard M. Sheri- dan.	Swampscott.....	3,101	Harold F. Dow.
Kingston.....	2,505	Clarence E. Michels.	Taunton.....	37,137	C. G. Persons.
Lawrence.....	94,270	Theodore W. King.	Templeton.....	4,019	Asa M. Jones.
Lee.....	4,085	Thomas F. Kane.	Tewksbury.....	4,450	(See Dracut.)
Leicester.....	3,635	William H. Perry.	Uxbridge.....	5,384	C. L. Judkins.
Lenox.....	2,691	Harry H. Lowry.	Wakefield.....	13,025	Willard B. Atwell.
Leominster.....	19,744	Frederic A. Wheeler.	Walpole.....	5,446	Ralph W. Westcott.
Lexington.....	6,350		Waltham.....	30,915	Charles N. Perkins.
Longmeadow (P. O., East Long- meadow).....	2,618		Ware.....	8,525	Joseph J. Kelly.
Lowell.....	112,759	Hugh J. Molloy.	Wareham.....	4,415	Horace F. Turner.
Ludlow.....	7,470	Walter E. Gushee.	Warren.....	3,467	Hermann G. Patt.
Lynn.....	99,148	Charles S. Jackson.	Watertown.....	21,457	Wilfred H. Price.
Malden.....	49,103	F. G. Marshall.	Webster.....	13,258	William H. Sims.
Mansfield.....	6,255	Nelson G. Howard.	Wellesley.....	6,224	S. Monroe Graves.
Marblehead.....	7,324	Frank H. Hill.	West Bridgewater.....	2,908	Thomas E. Gay.
Marlboro.....	15,028	Ernest P. Carr.	Westboro.....	5,789	Thomas S. Grindle.
Maynard.....	7,086	Wm. H. Millington.	Westfield.....	18,604	Chester D. Stiles.
Medfield.....	3,595	Albert S. Ames.	Westford.....	3,170	Herman C. Knight.
Medford.....	39,038	Maro S. Brooks.	Westport.....	3,115	Edward L. Hill.
Medway.....	2,566	C. Edward Fisher.	West Springfield.....	13,443	Norman J. Bond.
Melrose.....	18,204	John C. Anthony.	Weymouth.....	15,057	Parker T. Pearson.
Methuen.....	15,189	Edwin L. Haynes.	Whitman.....	7,147	Elwood T. Wyman.
Middleboro.....	8,453	Charles H. Bates.	Williamstown.....	3,707	(See Long Meadow.)
Millis.....	13,471	A. O. Caswell.	Wilmington.....	2,581	Albert J. Chidester.
Millbury.....	5,553	C. C. Ferguson.	Winchendon.....	5,504	Ralph R. Barr.
Milton.....	9,382	Joseph A. Ewart.	Winchester.....	10,485	Austin R. Paul.
Monson.....	4,826	Francis S. Brick.	Winthrop.....	15,455	John R. Fauser.
Montague.....	7,675	James J. Quinn.	Woburn.....	16,574	F. A. Douglas.
Nantucket.....	2,797	Edwin S. Tirrell.	Worcester.....	179,754	George I. Clapp.
Natick.....	10,507	Edgar L. Willard.	Wrentham.....	2,808	Harvey S. Gruver.
Needham.....	7,012	John C. Davis.			(See Franklin.)
New Bedford.....	121,217	Allen P. Keith.	<b>MICHIGAN.</b>		
Newburyport.....	15,618	William C. Moore.	Adrian.....	11,878	C. H. Griffey.
Newton.....	46,054	Ulysses G. Wheeler.	Albion.....	8,354	Don Harrington.
North Adams.....	22,282	Burr J. Merriam.	Allegan.....	3,637	Arthur R. Shigley.
Northampton.....	21,651	Fayette K. Congdon.	Alma.....	7,542	J. W. Kelder.
North Andover.....	6,265	Nahum Leonard.	Alpena.....	11,101	George H. Curtis.
North Attleboro.....	9,238	George W. Morris.	Ann Arbor.....	19,516	L. A. Butler.
Northbridge.....	10,174	F. E. Holt, Whitins- ville.	Battle Creek.....	36,164	W. G. Coburn.
North Brookfield.....	2,610	Edward C. Hempel.	Bay City.....	47,554	Frank A. Gause.
Norwood.....	12,627	Herbert H. Howes.	Belding.....	3,911	S. J. Skinner.
Orange.....	5,393	Josiah S. McCann.	Benton Harbor.....	12,233	Frank A. Jensen.
Oxford.....	3,820	(See Millbury.)	Bessemer.....	5,482	C. R. Cobb.
Paimeter.....	9,896	Clifton H. Hobson.	Big Rapids.....	4,558	D. A. Van Buskirk.
Peabody.....	19,552	Albert Robinson.	Birmingham.....	3,694	Clarence Vilet.
Pittsfield.....	41,763	John F. Gannon.	Bozeman.....	4,284	A. A. Metcalf.
Plymouth.....	13,005	Charles A. Harris.	Buchanan.....	3,187	B. F. Eggert.
Provincetown.....	4,246	Charles M. Pennell.	Cadillac.....	9,750	Chas. W. Crandell.
Quincy.....	47,876	Fred H. Nickerson.	Calumet.....	22,369	Edward J. Hall.
Randolph.....	4,756	(See Holbrook.)	Caro.....	2,704	F. E. Schall.
Reading.....	7,439	William C. McGlin- nis.	Charlotte.....	5,126	C. H. Carrick.
Revere.....	28,823	Oliver H. Toothaker.	Cheboygan.....	5,642	Carl Titus.
Rockland.....	7,544	William F. Eldredge.	Coldwater.....	6,114	Ira F. King.
Rockport.....	3,878	George M. Bemis.	Crystal Falls.....	3,394	W. D. Hill.
Salem.....	42,529	Jesse W. Lambert.	Detroit.....	993,678	Frank Cody.
Saugus (P. O., Lynn).....	10,674	F. E. Bragdon.	Dowagiac.....	5,440	L. W. Stewart.
Scituate.....	2,534	(See Blackstone.)	Durand.....	2,672	Wm. S. Goudy.
Seekonk.....	2,898		Ecorse.....	4,394	C. J. Miller.
			Escanaba.....	13,103	W. E. Olds.
			Fenton.....	2,507	J. A. Dalrymple.
			Ferris.....	2,640	W. E. Harris.
			Flint.....	91,599	A. N. Cody.



## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Popula- tion, census of 1920.	Superintendent or supervising principal.	City.	Popula- tion, census of 1920.	Superintendent or supervising principal.
<b>MICHIGAN—contd.</b>			<b>MINNESOTA—con.</b>		
Ford (P. O., Wyandotte).....	4,294	C. F. Pike.	Chisholm.....	9,039	J. P. Vaughan.
Gladstone.....	4,953	C. H. Teague.	Cloquet.....	5,127	Peter Olesen.
Grand Haven.....	7,205	L. H. von den Berg.	Columbia Heights (R. F. D. Min- neapolis).....	2,966	L. W. Isherwood.
Grand Ledge.....	3,043	John Sawdon.	Crookston.....	6,825	G. H. Sanberg.
Grand Rapids.....	137,634	William A. Greeson.	Crosby.....	8,500	H. R. Edwards.
Greenville.....	4,304	W. R. Booker.	Detroit.....	3,426	L. U. Tower.
Hamtramck.....	48,615	E. G. Van Deventer.	Duluth.....	98,917	J. H. Bentley.
Hancock.....	7,537	Henry A. Gilruth.	Ely.....	4,902	H. E. White.
Hastings.....	5,132	M. R. Keyworth.	Eveleth.....	7,205	J. V. Voorhees.
Highland Park.....	46,499	Thad J. Knapp.	Fairmont.....	4,630	D. S. Brainard.
Hillsdale.....	4,476	S. J. Gier.	Fargault.....	11,089	W. E. Lepp.
Holland.....	12,183	E. E. Foll.	Fergus Falls.....	7,581	W. O. Lippitt.
Houghton.....	4,466	A. O. Goodale.	Gilbert.....	3,510	K. K. Tibbetts.
Howell.....	2,951	C. Courter.	Grand Rapids.....	2,914	C. C. Baker.
Ionia.....	6,935	A. A. Rather.	Hastings.....	4,571	E. A. Durbahn.
Iron Mountain.....	8,251	M. B. Travis.	Hibbing.....	15,089	C. C. Alexander.
Iron River.....	4,295	William D. Byrns.	Hutchinson.....	3,379	Sam E. Tift.
Ironwood.....	15,739	D. F. Rice.	International Falls.....	3,448	G. V. Kinney.
Ishpeming.....	10,500	C. L. Phelps.	Lake City.....	2,846	M. H. Gullickson.
Jackson.....	48,374	E. O. Marsh.	Litchfield.....	2,700	W. H. Hollands.
Kalamazoo.....	48,487	E. H. Drake.	Little Falls.....	5,500	E. B. Bergquist.
Lansing.....	57,327	J. W. Sexton.	Laverne.....	2,782	H. C. Bell.
Lapeer.....	4,723	E. E. Irwin.	Marquette.....	12,469	E. S. Seale.
Ludington.....	8,810	H. E. Waits.	Marshall.....	2,062	L. C. McCarty.
Manistee.....	9,694	Benj. Klager.	Melrose.....	2,529	E. J. Swenson.
Manistique.....	6,340	T. W. Clemo.	Minneapolis.....	380,582	B. B. Jackson.
Marine City.....	3,731	H. B. Thompson.	Montevideo.....	4,419	J. J. Bohlander.
Marquette.....	12,718	W. M. Whitman.	Moorhead.....	5,720	M. L. Jacobson.
Marshall.....	4,270	F. E. King.	New Ulm.....	6,745	Arnold Gloor.
Menominee.....	8,907	John L. Silvernale.	Northfield.....	4,023	M. P. Fobbs.
Midland.....	5,483	J. J. Schafer.	Owatonna.....	7,252	John J. Skinner.
Monroe.....	11,573	Dean S. Spencer.	Pipestone.....	3,325	A. C. Tibbetts.
Mount Clemens.....	9,498	L. W. Fast.	Red Wing.....	8,637	O. W. Herr.
Mount Pleasant.....	4,819	G. E. Ganiard.	Rochester.....	13,722	Winfred G. Bolcom.
Munising.....	5,037	A. M. Walsworth.	St. Cloud.....	15,873	P. R. Spencer.
Muskegon.....	36,570	M. W. Longman.	St. James.....	2,673	J. Roy Struble.
Muskegon Heights.....	9,514	Leon L. Tyler.	St. Paul.....	234,698	Shattuck O. Hart-
Negaunee.....	7,419	E. D. Denison.	well.		
Niles.....	7,311	O. W. Haisley.	St. Peter.....	4,335	Malville R. Davis.
Norway.....	4,533	G. L. Greenswalt.	Sauk Center.....	2,699	E. R. Edwards.
Onaway.....	2,789	R. E. Simms.	South St. Paul.....	6,950	D. E. Hickley.
Otsego.....	3,168	Chas. R. Johnson.	Staples.....	2,570	P. M. Atwood.
Owosso.....	12,575	E. J. Willman.	Stillwater.....	7,735	J. C. Davies.
Petoskey.....	5,064	P. G. Lantz.	Thief River Falls.....	4,685	I. T. Simler.
Plymouth.....	2,857	George R. Smith.	Two Harbors.....	4,546	C. E. Compton.
Pontiac.....	21,273	James H. Harris.	Virginia.....	14,022	E. T. Huffdell.
Port Huron.....	25,944	H. A. Davis.	Waseca.....	3,908	S. C. Huffman.
River Rouge.....	9,822	A. McDonald.	West Minneapolis (P. O. Hopkins).....	3,055	R. J. Mayo.
Rochester.....	2,549	W. E. Parker.	West St. Paul.....	2,962	J. W. Klinker.
Royal Oak.....	6,007	Frank Hendry.	Willmar.....	5,892	George O. Brohaugh.
Saginaw.....		W. W. Warner.	Winona.....	19,143	Robert B. Irons.
East Side.....		O. M. Misenar.	Worthington.....	3,481	C. A. Patchin.
West Side.....	61,903	F. P. Buck.			
St. Clair.....	3,204	E. P. Clarke.	<b>MISSISSIPPI.</b>		
St. Johns.....	3,925	Lloyd S. Gullen.	Aberdeen.....	4,071	Edgar S. Bowhus.
St. Joseph.....	7,251	G. G. Malcolm.	Amory.....	2,981	J. O. Donaldson.
St. Louis.....	3,036	C. M. Mohr.	Bay St. Louis.....	3,083	Leon McClur.
Sault Ste. Marie.....	12,096	S. M. Ferner.	Biloxi.....	10,937	Claude Bennett.
South Haven.....	5,995	Floyd W. Crawford.	Brookhaven.....	4,706	S. M. Byrd.
Sturgis.....	5,209	Charles L. Poor.	Canton.....	3,252	H. R. Carter.
Three Rivers.....	10,925	Arthur W. Clevenger.	Charleston.....	3,007	R. W. Boyett.
Traverse City.....	4,151	F. W. Frostic.	Clarksdale.....	7,552	H. B. Heidelberg.
Wakefield.....	13,851	A. G. Erickson.	Columbia.....	2,826	Wm. O. Brumfield.
Wyandotte.....			Corinth.....	10,501	H. H. Ellis.
Ypsilanti.....	7,413		Greenville.....	5,498	M. E. Moffitt.
<b>MINNESOTA.</b>			Greenwood.....	11,560	E. E. Bass.
Albert Lea.....	8,056	Clark W. Brown.	Grenada.....	7,793	C. E. Saunders.
Alexandria.....	3,388	Theodore Utne.	Gulfport.....	3,402	John Rundle.
Anoka.....	4,287	O. E. Smith.	Hartsville.....	8,157	R. G. Butler.
Aurora.....	2,809	Stanley Adkins.	Jackson.....	13,270	J. C. Meadows.
Austin.....	10,118	S. T. Neveln.	Laurel.....	22,817	Edward L. Bailey.
Bemidji.....	7,086	John C. West.	McComb.....	13,037	R. H. Watkins.
Blue Earth.....	2,568	R. A. Hill.		7,775	Joseph E. Gibson.
Brainerd.....	9,591	W. C. Cobb.			

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
MISSISSIPPI—con.			MISSOURI—contd.		
Meridian.....	23,399	W. C. Williams.	Webb City.....	7,807	C. W. Oldham.
Moss Point.....	3,340	W. M. Alexander.	Webster Groves..	9,474	Frank Hamsber.
Natchez.....	12,608	W. H. Braden.	West Plains.....	3,178	J. Will Pierce.
New Albany.....	2,531	Bayard L. Coulter.			
Okolona.....	3,852	W. M. Cox.	MONTANA.		
Pascagoula.....	6,082	T. C. Lockard.	Anaconda.....	11,668	W. K. Dwyer.
Starkville.....	2,536	R. C. Morris.	Billings.....	15,100	Ward H. Nye.
Tupelo.....	5,065	Thomas M. Milam.	Bozeman.....	6,188	Risdon J. Cunningham.
Vicksburg.....	18,072	J. P. Carr.			
Water Valley.....	4,315	Guy D. Dean.	Butte.....	41,611	H. H. Douglass.
West Point.....	4,400	Bailey Schumpert.	Deer Lodge.....	3,780	Owen D. Speer.
Winona.....	2,572	Henry M. Frizell.	Dillon.....	2,701	Grant E. Finch.
Yazoo City.....	5,244	R. L. Bedwell.	Glendive.....	3,816	E. T. Carroll.
			Great Falls.....	24,121	S. D. Largent.
MISSOURI.			Havre.....	5,429	Charles P. Milne.
Aurora.....	3,576	D. W. Clayton.	Helena.....	12,037	John Dietrich.
Bonne Terre.....	3,815	B. F. Melcher.	Kalispell.....	5,147	William D. Swetland.
Boonville.....	4,665	C. E. Chrane.			
Brookfield.....	6,304	L. V. Crookshank.	Lewistown.....	6,120	C. G. Manning.
Butler.....	2,702	Charles A. Lee.	Livingston.....	6,311	B. A. Winans.
Cameron.....	3,248	A. C. Gwinn.	Miles City.....	7,937	John A. Anderson.
Cape Girardeau.....	10,252	J. N. Crocker.	Missoula.....	12,668	Ira B. Fee.
Carrollton.....	3,218	Geo. D. Dietrich.	Red Lodge.....	4,515	F. B. Bates.
Carthage.....	10,068	W. C. Barnes.	Whitefish.....	2,967	H. L. Hayden.
Caruthersville.....	4,750	J. H. Goodin.			
Chaffee.....	3,035	C. M. Green.	NEBRASKA.		
Charleston.....	3,410	Vest C. Myers.	Alliance.....	4,501	W. R. Fats.
Chillicothe.....	6,772	James R. Kerr.	Auburn.....	2,963	A. M. Nelson.
Clayton.....	3,028	E. E. Morton.	Aurora.....	2,962	J. A. Doremus.
Clinton.....	5,066	Arthur Lee.	Beatrice.....	9,664	A. T. Stoddard.
Columbia.....	10,392	W. I. Oliver.	Blair.....	2,702	James Skinkle.
De Soto.....	5,003	H. L. Bowman.	Broken Bow.....	2,567	H. R. Partridge.
Dexter.....	2,635	Ira H. R. Welch.	Chadron.....	4,412	T. R. Crawford.
Eldon.....	2,636	T. E. Vaughan.	Columbus.....	5,410	C. Ray Gates.
Excelsior Springs.....	4,165	W. S. Smith.	Fairbury.....	5,454	W. H. Morton.
Farmington.....	2,685	W. L. Johns.	Falls City.....	4,880	B. H. Groves.
Festus.....	3,348	James Sutton.	Fremont.....	9,005	A. H. Waterhouse.
Fredericktown.....	3,124	E. O. Wiley.	Gering.....	2,508	W. C. Findley.
Fulton.....	5,585	J. T. Bush.	Grand Island.....	13,947	R. J. Barr.
Hannibal.....	19,306	L. McCartney.	Hastings.....	11,647	A. H. Staley.
Higginsville.....	2,724	D. W. Branam.	Havlock.....	3,002	Frank F. Adams.
Independence.....	11,686	E. B. Street.	Holdrege.....	3,106	J. C. Mitchell.
Jefferson City.....	14,490	W. M. Oakerson.	Kearney.....	7,702	O. A. Wirsig.
Joplin.....	29,902	William T. Harris.	Lincoln.....	54,948	M. C. Lefler.
Kansas City.....	321,410	I. I. Cammack.	McCook.....	4,303	J. A. True.
Kennett.....	3,622	Egbert Jennings.	Nebraska City.....	6,279	Wiley G. Brooks.
Kirkville.....	7,213	Charles Banks.	Norfolk.....	8,634	H. B. Simon.
Kirkwood.....	1,422	Edw. H. Beumer.	North Platte.....	10,466	C. L. Little.
Lebanon.....	2,848	Roscoe V. Cramer.	Omaha.....	191,601	J. H. Beveridge.
Lexington.....	4,685	L. H. Bell.	Plattsmouth.....	4,190	George E. De Wolf.
Liberty.....	3,097	J. L. Campbell.	Schuyler.....	2,636	R. T. Fosnot.
Louisiana.....	4,060	R. R. Rowley.	Scottsbluff.....	6,912	E. L. Rouse.
Macon.....	3,549	J. C. Bond.	Sidney.....	2,852	W. J. Braham.
Maplewood.....	7,431	J. Richmond.	Superior.....	2,719	John L. McCommons.
Marceline.....	3,760	G. H. Merideth.			
Marshall.....	5,200	W. M. Westbrook.	University Place.	4,112	A. H. Dixon.
Maryville.....	4,711	L. E. Ziegler.	Wymore.....	2,592	E. M. Short.
Mexico.....	6,013	L. B. Hawthorne.	York.....	5,388	A. W. Graham.
Moberly.....	12,908	M. F. Beach.			
Monett.....	4,206	Finis E. Engleman.	NEVADA.		
Neosho.....	3,968	Charles Baldwin.	Reno.....	12,016	B. D. Billingshurst.
Nevada.....	7,139	C. F. Daugherty.	Sparks.....	3,238	C. L. Neely.
Poplar Bluff.....	8,042	Geo. W. Beswick.	Tonopah.....	4,144	Walter W. Anderson.
Richmond.....	4,409	A. L. Dailey.			
St. Charles.....	8,503	William F. Knox.	NEW HAMPSHIRE.		
St. Joseph.....	77,089	J. W. Thalmann.	Berlin.....	16,104	Carl M. Bair.
St. Louis.....	772,897	John J. Maddox.	Claremont.....	9,524	Albert B. Kellogg.
Sedalia.....	21,144	C. A. Greene.	Concord.....	22,167	L. J. Randlett.
Sikeston.....	3,613	Roy V. Ellis.	Conway.....	3,102	L. M. Felch.
Slatersville.....	3,797	J. W. Sullivan.	Derry.....	5,382	Carl Cotton.
Springfield.....	39,631	W. W. Thomas.	Dover.....	13,029	J. E. Wignot.
Trenton.....	6,951	O. G. Sanford.	Exeter.....	4,604	Clifton A. Towle.
University.....	6,792	Horace M. Buckley.			
Warrensburg.....	4,811	Edward Beatty.			
Washington.....	3,132	R. F. Nichols.			

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
<b>NEW HAMPSHIRE— continued.</b>			<b>NEW JERSEY—CON</b>		
Franklin.....	6,318	George A. Keith.	Hasbrouck Heights.....	2,895	J. Earle Thomson.
Gorham.....	2,734	Charles W. Walker.	Hawthorne.....	5,135	F. H. Thoms.
Haverhill.....	3,406	Norman J. Page.	Highland Park (P. O., New Brunswick).....	4,866	F. Willard Furth.
Keene.....	11,210	Wm. C. T. Adams.	Hightstown.....	2,674	Jane B. Donnell.
Laconia.....	10,897	John S. Gilman.	Hoboken.....	68,166	Jos. F. Brandt.
Lancaster.....	2,819	John H. Fuller.	Irvington.....	25,480	Robert L. Saunders.
Lebanon.....	6,162	Herbert L. Sawyer.	Jersey City.....	298,103	Henry Snyder.
Littleton.....	4,239	Vernon K. Brackett.	Kearny (P. O., Arlington).....	26,724	Herman Dressel.
Manchester.....	78,384	Herbert F. Taylor.	Keyport.....	4,415	Willis E. Bilderback.
Milford.....	3,783	Harold C. Balcs.	Lambertville.....	4,660	John H. Herring.
Nashua.....	26,379	Charles H. Noyes.	Leonia.....	2,979	Nelson C. Smith.
Newmarket.....	3,181	Justin O. Wellman.	Little Ferry.....	2,715	Edward E. Gaige.
Newport.....	4,109	W. H. S. Ellingwood.	Lodi.....	8,175	Henry V. Matthews.
Northumberland.....	2,567	O. M. Holman.	Long Branch.....	13,521	Charles T. Stone.
Pembroke (P. O., Suncook).....	2,563	Henry S. Roberts.	Madison.....	5,523	W. B. Davis.
Peterboro.....	2,615	L. E. Prior.	Merchantville.....	2,749	Geo. A. Land.
Portsmouth.....	13,569	William H. Slayton.	Metuchen.....	3,334	L. G. Van Kirk.
Rochester.....	9,673	Alfred W. Smith.	Milltown.....	2,573	Harry R. Mensch.
Somersworth.....	6,688	Walter H. Young.	Millville.....	14,601	Frederick J. Sickles.
Walpole.....	2,553	W. J. English.	Montclair.....	28,810	Don C. Bliss.
<b>NEW JERSEY.</b>			Morristown.....	12,548	J. Burton Wiley.
Asbury Park.....	12,400	A. E. Kraybill.	Newark.....	414,524	David B. Corson.
Atlantic City.....	50,707	C. B. Boyer.	New Brunswick.....	32,779	John T. Chapman.
Audubon.....	4,740	Alice C. Summerill.	Newton.....	4,125	E. L. Baxter.
Bayonne.....	76,754	Preston H. Smith.	North Bergen.....	23,344	M. F. Husted.
Belleville.....	15,660	G. R. Gerard.	North Plainfield (P. O., Plainfield).....	6,916	Andrew J. Pietsch.
Bergenfield.....	3,667	Roy W. Brown.	Nutley.....	9,421	Paul R. Radcliffe.
Beverly.....	2,562	James B. Dilks.	Ocean City.....	2,512	James M. Stevens.
Bloomfield.....	22,019	George Morris.	Orange.....	33,268	W. Burton Patrick.
Bogota.....	3,906	Frank E. Tilton.	Palisades Park.....	2,633	Charles B. Armstrong.
Boonton.....	5,372	M. E. Townsend.	Passaic.....	63,841	Fred S. Shepherd.
Bordentown.....	4,371	Robert M. Oberholser.	Paterson.....	135,875	John R. Wilson.
Boundbrook.....	5,906	Louis De Witt Deyo.	Paulsboro.....	4,352	Bennett K. Matlack.
Bridgeton.....	14,323	David C. Porter.	Pennsgrove.....	6,060	Merritt Jenkins.
Burlington.....	9,049	Van H. Smith.	Perth Amboy.....	41,707	S. E. Shull.
Butler.....	2,886	R. J. Eilenberger.	Phillipsburg.....	16,923	Henry B. Howell.
Caldwell.....	3,993	D'Arcy Barnett.	Pitman.....	3,385	Daniel W. Davis.
Camden.....	116,309	James E. Bryan.	Plainfield.....	27,700	Henry M. Maxson.
Cape May.....	2,999	E. R. Brunyate.	Pleasantville.....	5,887	Wm. C. Sullivan.
Carlstadt.....	4,472	George Kintner.	Princeton.....	5,917	Mabel T. Vanderbilt.
Cliffside Park (P. O., Grantwood).....	5,709	George F. Hall.	Prospect Park (P. O., Paterson).....	4,292	Thomas L. Bump.
Clifton.....	26,470	George J. Smith.	Rahway.....	11,042	W. F. Little.
Collingswood.....	8,714	Henry J. Neal.	Raritan.....	4,457	Oscar A. Fisher.
Dover.....	9,803	R. S. Bowlby.	Red Bank.....	9,251	E. C. Gilland.
Dumont.....	2,537	L. J. Honiss.	Ridgefield Park.....	8,575	A. Ray Palmer.
Dunellen.....	3,394	M. Burr Mann.	Ridgewood.....	7,580	Ira W. Travell.
East Newark.....	3,057	Thomas W. Hopkins.	Rockaway.....	2,655	Charles L. Curtis.
East Orange.....	50,710	Clifford J. Scott.	Roosevelt (P. O., Chrome).....	11,047	B. V. Hermann.
East Rutherford.....	5,463	Frank J. Ogles.	Roselle.....	5,737	Edward V. Walton.
Edgewater.....	3,530	Wm. F. Conway.	Roselle Park (P. O., Elizabeth).....	5,438	E. F. Smith.
Egg Harbor.....	2,622	D. R. Rohrbach.	Rutherford.....	9,497	Clarence A. Fetterly.
Elizabeth.....	95,783	Frederick E. Emmons.	Salem.....	7,435	A. G. Dohner.
Englewood.....	11,627	Winton J. White.	Secaucus.....	5,423	M. J. Pechtel.
Fairview.....	4,882	Z. G. Masten.	Somerville.....	6,718	T. Latimer Brooks.
Flomington.....	2,590	Paul H. Axtell.	South Amboy.....	7,897	Oscar O. Barr.
Fort Lee.....	5,761	Arthur E. Chase.	South Orange.....	7,274	H. W. Foster.
Franklin.....	4,075	Ernest N. Roselle.	South River.....	6,596	William S. Lesh.
Freehold.....	4,768	Wm. M. Smith.	Summit.....	10,174	H. A. Sprague.
Garfield.....	19,381	Wm. H. Sturges.	Tenafly.....	5,850	Ralph S. Maugham.
Glen Ridge.....	4,620	Edney G. Firman.	Town of Union (P. O., Weehawken).....	20,651	Luther N. Steele.
Gloucester.....	12,162	Wilmer F. Burns.	Trenton.....	112,289	William J. Bickett.
Guttenberg.....	6,729	John F. O'Toole.	Verona.....	3,039	Frederic N. Brown.
Hackensack.....	17,600	William E. Stark.	Vineland.....	6,799	H. L. Reber.
Hackettstown.....	2,946	Charles H. Reagle.	Wallington.....	5,715	John M. Myers.
Haddonfield.....	5,643	Fred A. Nims.			
Haddon Heights.....	2,950	Frank S. Woolson.			
Haledon.....	3,435	Absalom Grundy.			
Hammonton.....	6,417	N. C. Holdridge.			
Harrison.....	15,721	James F. Prendergast.			

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
NEW JERSEY—CON.			NEW YORK—CON.		
Wanaque.....	2,916	O. L. Fleetwood.	Elmira Heights...	4,188	J. E. Demorest.
Washington.....	3,341	S. M. Tressler.	Endicott.....	9,500	Herbert H. Crumb.
Weehawken.....	14,485	Frank A. Balch.	Fairport.....	4,626	H. Claude Hardy.
Westfield.....	9,063	Charles A. Phil- hower.	Falconer.....	2,742	Hiram J. Baldwin.
West Hoboken.....	40,074	Arthur O. Smith.	Fort Edward.....	3,871	Franklin Barber.
West New York.....	29,926	H. W. Maxson.	Fort Plain.....	2,747	Walter M. Pratt.
West Orange.....	15,573	S. C. Strong.	Frankfort.....	4,198	B. C. Van Ingen.
Westwood.....	2,597	Edward D. Graber.	Fredonia.....	6,051	William B. Blaisdell.
Wharton.....	2,877	William P. Curtis.	Freeport.....	8,599	G. F. Du Bois.
Wildwood.....	2,790	Henry C. Chalmers.	Fulton.....	18,043	James R. Fairgrieve.
Woodbury.....	5,801	Malcolm G. Thomas.	Geneva.....	14,648	A. J. Merrell.
Wrightstown.....	5,288	Mrs. Elizabeth D. Pullen.	Glen Cove.....	8,664	H. H. Chapman.
NEW MEXICO.			Glens Falls.....	16,638	Elbert W. Griffith.
Albuquerque.....	15,157	John Milne.	Gloversville.....	22,075	James A. Estee.
Clovis.....	4,904	Jas. M. Bickley.	Goshen.....	2,843	Montgomery C. Smith.
Deming.....	3,212	Edwin D. Martin.	Gouverneur.....	4,143	L. T. Wilcox.
Gallup.....	8,920	Roy L. White.	Gowanda.....	2,673	Reverdy E. Baldwin.
Las Cruces.....	3,969	G. B. Jones.	Granville.....	3,024	B. E. Brown.
Las Vegas (city, P. O. East Las Vegas).....	4,304	Walter B. McFar- land.	Green Island.....	4,411	James Heatly.
Las Vegas (town).....	3,902	Margaret Barnard.	Greenport.....	3,122	Oscar E. Swanson.
Raton.....	5,544	L. C. Rhoads.	Hamburg.....	3,185	For E. Park.
Roswell.....	7,053	D. N. Pope.	Hastings upon Hudson.....	5,536	H. H. Murphy.
Santa Fe.....	7,236	Albert C. Best.	Haverstraw.....	5,226	L. O. Markham.
Silver City.....	2,662	Lela A. Manville.	Hempstead.....	6,382	T. P. Calkins.
Tucumcari.....	3,117	U. O. Anderson.	Herkimer.....	10,453	L. W. Bills.
NEW YORK.			Highland Falls.....	2,588	B. O. Stephens.
Albany.....	113,344	C. Edward Jones.	Hoosick Falls.....	4,896	Clyde L. Harvey.
Albion.....	4,683	Willis G. Carmer.	Hornell.....	15,025	H. S. Dodge.
Amityville.....	3,265	Geo. A. Brown.	Hudson.....	11,745	Charles S. Williams.
Amsterdam.....	33,524	H. T. Morrow.	Hudson Falls.....	5,761	George A. Ingalls.
Auburn.....	36,192	Henry D. Hervey.	Ilion.....	10,169	H. M. Schwartz.
Avon.....	2,585	Willis G. Saunders.	Irrington.....	2,701	Fred J. Bierce.
Babylon.....	2,523	C. W. Armstrong.	Ithaca.....	17,004	Frank D. Boynton.
Baldwinsville.....	3,685	H. E. Elden.	Jamestown.....	33,917	Milton J. Fletcher.
Ballston Spa.....	4,103	William A. Andrews.	Johnson City.....	8,587	Frank M. Smith.
Bath.....	13,541	Elwin A. Ladd.	Johnstown.....	10,908	E. L. Ackley.
Batavia.....	4,795	Edgar A. Lewis.	Kenmore (P. O., Tonawanda).....	3,160	F. C. Densberger.
Beacon.....	10,996	E. D. Hewes.	Kingston.....	26,688	M. J. Michael.
Binghamton.....	66,800	Daniel J. Kelly.	Lackawanna.....	17,918	William J. Breen.
Brockport.....	2,980	E. S. Barclay.	Lancaster.....	6,069	F. L. Smith.
Bronxville.....	3,065	Arthur C. Hafl.	La Salle.....	3,813	W. H. Daley (schoo No. 4).
Buffalo.....	506,775	Ernest C. Hartwell.	Lawrence.....	2,861	W. Van Willis (school No. 5).
Canandaigua.....	7,356	Frank E. Fisk.	Le Roy.....	4,203	Robert G. Horn.
Canastota.....	3,995	E. G. Simmons.	Little Falls.....	13,029	E. B. Taylor.
Canton.....	2,631	John H. Miller.	Lockport.....	21,308	E. D. Henry.
Carthage.....	4,320	Sherman L. Howe.	Lowville.....	3,127	Roy B. Kelley.
Catskill.....	4,728	Edward D. Myers.	Lynbrook.....	4,371	Leon A. Davis.
Cedarhurst.....	2,838	Eugene H. Coon.	Lyons.....	4,253	C. D. Vosburgh.
Chatham.....	2,710	A. H. Covell.	Malone.....	7,556	W. H. Kinney.
Clyde.....	2,528	Edward Hayward.	Mamaroneck.....	6,571	H. H. Lamberton.
Cohoes.....	22,987	M. J. Multer.	Massena.....	5,993	Arthur Z. Boothby.
Cooperstown.....	2,725	Harris Crandall.	Mechanicsville.....	8,166	D. Howard Naylor.
Corinth.....	2,576	J. Murray Foster.	Medina.....	6,011	E. H. Burdick.
Corning.....	15,820	A. M. Blodgett.	Middletown.....	18,420	H. E. Brown.
District No. 9.....	13,294	F. E. Smith.	Mincola.....	3,016	James F. Tuthill.
District No. 13.....	2,623	Miss Marion Davis.	Mohawk.....	2,919	Jacob I. Allart.
Cortland.....	4,631	Wallace J. Braman.	Mount Kisco.....	3,944	Harry M. Fisher.
Dannemora.....	5,850	J. M. Barker.	Mount Morris.....	3,312	H. M. Jennings.
Danville.....	4,401	B. M. Sheppard.	Mount Vernon.....	42,726	Harold J. Coon.
Dewey.....	3,448	Thos. G. Coffee.	Newark.....	6,964	William H. Holmes.
Dobbs Ferry.....	19,336	Frederick R. Dar- ling.	Newburgh.....	30,366	F. Neff Stroup.
Dokeville.....	3,703	H. W. Mead.	New Rochelle.....	36,213	Snyder J. Gage.
Dunkirk.....	3,901	Louis E. Bird.	New York.....	5,620,048	Albert Leonard.
East Aurora.....	4,106	E. T. Hennessy.	Niagara Falls.....	50,700	William L. Ettinger.
East Rochester.....	3,116	E. C. Hocmer.	North Tarrytown.....	5,927	John B. Laidlaw.
East Syracuse.....	45,363	Harvey O. Hutch- inson.	North Tonawanda.....	15,482	Charles A. Benedict.
Ellenville.....			Norwich.....	8,268	Delmer E. Batchel- ler.
Elmira.....			Nyack.....	4,444	Frank R. Wassung.
			Ogdensburg.....	14,809	H. J. Wightman.
			Olean.....	20,506	Frances C. Byrn.
					Wm. C. Greenawalt.

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
NEW YORK—con.			NORTH CAROLINA—contd.		
Oneida.....	10,541	Harry W. Langworthy.	Belmont.....	2,941	H. C. Sisk.
Oneonta.....	11,582	George J. Dann.	Burlington.....	5,952	C. C. Haworth.
Ossining.....	10,739	Everett A. Barto.	Canton.....	2,584	W. C. Allen.
Oswego.....	22,626	Frederick Leighton.	Charlotte.....	46,338	H. P. Harding.
Owego.....	4,147	W. A. McConnell.	Concord.....	9,903	A. S. Webb.
Patchogue.....	4,031	Sheridan Linn.	Dunn.....	2,805	W. S. Snipes.
Peekskill:			Durham.....	21,719	Edwin D. Pusey.
District No. 7.		(Fred J. Bohlmann.	Edenton.....	2,777	Joe R. Nixon.
District No. 8. }	15,868	A. D. Dunbar.	Elizabeth City.....	8,925	S. L. Sheep.
Penn Yan.....	4,517	W. E. De Melt.	Fayetteville.....	8,877	M. B. Andrews.
Perry.....	4,717	W. H. McClelland.	Gastonia.....	12,871	William P. Grier.
Plattsburg.....	10,909	Geo. M. Elmendorf.	Goldsboro.....	11,296	O. A. Hamilton.
Pleasantville.....	3,600	John E. Morgan.	Greensboro.....	19,861	Frederick Archer.
Port Chester.....	16,573	Elmer S. Redman.	Greenville.....	5,772	J. H. Rose.
Port Jervis.....	10,171	Arthur H. Naylor.	Hamlet.....	3,808	C. S. Warren.
Potsdam.....	4,039	Randolph T. Congdon.	Henderson.....	5,222	J. T. Alderman.
Poughkeepsie.....	35,000	Ward C. Moon.	Hendersonville.....	3,720	A. W. Honeycutt.
Rensselaer.....	10,823	Walter T. Clark.	Hickory.....	5,076	R. W. Carver.
Rochester.....	205,750	Herbert S. Weet.	High Point.....	14,302	W. M. Marr.
Rockville Center.....	6,262	William S. Covert.	Kings Mountain.....	2,800	F. C. Nye.
Rome.....	26,241	George B. Staley.	Kinston.....	9,771	K. R. Curtis.
Rye.....	5,308	George E. Webster.	Laurinburg.....	2,643	S. W. Rabb.
Sag Harbor.....	2,993	Gilbert R. Lyon.	Lenoir.....	3,718	Horace Sisk.
Salamance.....	9,276	A. W. Fortune.	Lexington.....	5,254	J. H. Cowles.
Saranac Lake.....	5,174	H. V. Littell.	Lincolnton.....	3,390	E. D. Johnson.
Saratoga Springs.....	13,181	Charles L. Mosher.	Lumberton.....	2,691	W. H. Hale.
Saugerties.....	4,013	Edward B. James.	Monroe.....	4,084	S. G. Hawfield.
Scarsdale.....	3,506	George E. Hewitt.	Mooreville.....	4,315	J. O. Faulkner.
Schenectady.....	88,728	E. B. Whitney.	Morehead City.....	2,958	E. P. Mendenhall.
Scotia.....	4,358	A. W. Miller.	Morgantown.....	2,867	H. F. Brygley.
Seneca Falls.....	6,389	A. C. Hamilton.	Mount Airy.....	4,752	L. M. Epps.
Sidney.....	2,670	Charles F. Ferry.	New Bern.....	12,198	H. B. Smith.
		Masonville.	Newton.....	3,021	M. S. Beam.
Silver Creek.....	3,260	W. H. Edwards.	Oxford.....	3,606	F. G. Credle.
Solvay.....	7,352	John P. Sherrard.	Raleigh.....	24,418	S. B. Underwood.
Southampton.....	2,891	H. F. Sabine.	Reidsville.....	5,333	P. H. Gwynn, jr.
Spring Valley.....	3,618	Guy P. Rego.	Roanoke Rapids.....	3,369	E. J. Coltrane.
Suffern.....	3,154	A. P. Burroughs.	Rockingham.....	2,609	L. I. Bell.
Syracuse.....	171,717	P. M. Hughes.	Rocky Mount.....	12,742	R. M. Wilson.
Tarrytown.....	5,807	L. V. Case.	Salisbury.....	13,884	T. Wingate Andrews
Tonawanda.....	10,068	Frank K. Sutley.	Sanford.....	2,977	C. E. Teague.
Troy:			Shelby.....	3,609	I. C. Griffin.
Lansingburg district.		(N. K. White.	Spencer.....	2,510	H. C. Miller.
Union district }	72,013	(Arvie Eldred.	Statesville.....	7,896	R. M. Gray.
Tuckahoe.....	3,509	Margaret L. Hayes (acting)	Tarboro.....	4,568	Robert F. Moseley.
Tupper Lake.....	2,508	Leo E. Endersbee.	Thomasville.....	5,676	J. N. Hanes.
Union.....	3,398		Wadesboro.....	2,648	C. L. Cates.
Utica.....	94,156	John A. De Camp.	Washington.....	6,314	Frank L. Ashley.
Walden.....	5,498	Earl W. Bennett.	Wilmington.....	33,372	W. A. Graham.
Walton.....	3,598	C. P. Wells.	Wilson.....	10,612	Charles L. Coon.
Wappingers Falls.....	3,235	W. E. Archer.	Winston-Salem.....	48,396	R. H. Latham.
Warsaw.....	3,622	Herbert Preston.			
Waterford.....	2,637	Earl P. Watkins.	NORTH DAKOTA.		
Waterloo.....	3,809	A. H. Downey.	Bismarck.....	7,122	J. M. Martin.
Watertown.....	31,285	Frank S. Tisdale.	Devils Lake.....	5,140	Nelson Sauvain.
Watervliet.....	16,073	Hugh H. Lansing.	Dickinson.....	4,122	P. S. Berg.
Watkins.....	2,785	John A. Beers.	Fargo.....	21,961	J. G. Moore.
Waverly.....	5,270	P. C. Meserve.	Grafton.....	2,512	R. B. Murphy.
Wellsville.....	4,996	Howard J. Steere.	Grand Forks.....	14,010	W. C. Stebbins.
Westfield.....	3,413	L. W. Swain.	Jamestown.....	6,627	Norman C. Kountz.
Whitehall.....	5,258	Arthur J. Laidlaw.	Mandan.....	4,336	C. L. Love.
White Plains.....	21,031	John W. Lumbard.	Minot.....	10,476	L. A. White.
Whitesboro.....	3,038	Rollin W. Thompson.	Valley City.....	4,681	G. W. Hanna.
		Charles E. Garton.	Wahpeton.....	2,099	Martha T. Fulton.
Yonkers.....	100,176		Williston.....	4,178	George A. McFarland
NORTH CAROLINA.			OHIO.		
Aibemarle.....	2,691	J. H. McIver.	Akron.....	208,435	Carroll R. Reed.
Ashboro.....	2,559	D. W. Maddox.	Alliance.....	21,803	B. F. Stanton.
Asheville.....	28,504	W. L. Brooker.	Ashland.....	9,249	J. A. McDowell.
Beaufort.....	2,968	C. W. E. Pittman.	Ashtabula.....	22,082	H. C. Distarch.
			Athens.....	6,418	C. E. Staley.
			Barberton.....	18,811	U. L. Light.
			Barnesville.....	4,865	W. C. Jordan.

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
OHIO—continued.			OHIO—continued.		
Bedford.....	2,677	A. E. Moody.	Maumee.....	3,195	H. E. Dewey.
Bellaire.....	15,061	J. V. Nelson.	Medina.....	3,430	William E. Conkle.
Bellefontaine.....	9,336	R. J. Kiefer.	Miamisburg.....	4,383	Harris V. Bear.
Bellevue.....	5,776	C. M. Carrick.	Middleport.....	3,772	A. W. McKay.
Berea.....	2,959	S. S. Dickey.	Middletown.....	23,594	R. W. Solomon.
Bowling Green.....	5,788	D. C. Bryant.	Mingo Junction.....	4,616	Frank Linton.
Bridgeport.....	3,977	S. A. Gillette.	Montpelier.....	3,052	C. R. Dustin.
Bryan.....	4,252	J. W. Wyandt.	Mount Vernon.....	9,237	A. W. Elliott.
Bucyrus.....	10,425	John R. Patterson.	Napoleon.....	4,143	W. R. Ash.
Byesville.....	2,775	W. H. Nicholson.	Nelsonville.....	6,440	D. A. Ferree.
Cambridge.....	13,104	W. E. Arter.	Newark.....	26,718	Oren J. Barnes.
Canton.....	87,091	Wilson Hawkins.	New Boston (R. F. D. Ports- mouth).....	4,817	D. E. Ross.
Celina.....	4,226	C. V. Sensesbaugh.	Newcomerstown.....	3,389	W. B. Hayes.
Chilli-cothe.....	15,831	J. H. Mason.	New Lexington.....	3,157	E. C. Darnell.
Cincinnati.....	401,247	Randall J. Condon.	New Philadelphia.....	10,718	Chas. F. Limbach.
Circleville.....	7,049	J. O. Eagleson.	Niles.....	13,080	S. L. Eby.
Cleveland.....	796,841	Robinson G. Jones.	Norwalk.....	7,379	C. C. Patterson.
Cleveland Heights.....	15,236	James W. McLane.	Norwood.....	24,966	W. S. Cadman.
Clyde.....	3,090	A. J. Love.	Oberlin.....	4,236	Howard L. Rawdon.
Columbus.....	237,031	J. G. Collicott.	Orrville.....	4,107	M. C. Avery.
Conneaut.....	9,343	C. M. Dickey.	Painesville.....	7,272	C. C. Underwood.
Coshocton.....	10,847	O. B. Clifton.	Piqua.....	15,044	Geo. C. Dietrich.
Crestline.....	4,313	E. W. Bell.	Pomeroy.....	4,294	C. T. Coates.
Crooksville.....	3,311	E. D. Bates.	Port Clinton.....	3,928	Alonzo F. Myers.
Cuyahoga Falls.....	10,200	W. H. Richardson.	Portsmouth.....	33,011	Frank Appel.
Dayton.....	152,359	Paul C. Stetson.	Ravenna.....	7,219	E. O. Trescott.
Defiance.....	8,876	E. W. Howey.	Reading.....	4,540	R. J. Lyon.
Delaware.....	8,756	H. T. Main.	St. Bernard.....	6,312	F. M. Reynolds.
Delphos.....	5,745	Hugh R. Hick.	St. Marys.....	5,679	C. C. McBrooms.
Dennison.....	5,524	W. H. Angel.	Salem.....	10,305	John S. Alan.
Dover.....	8,101	S. O. Mase.	Salineville.....	2,700	C. W. Vermillion.
East Cleveland.....	27,292	W. H. Kirk.	Sandusky.....	22,997	F. J. Prout.
East Liverpool.....	21,411	Franklin P. Geiger.	Sebring.....	3,541	Ralph W. Ling.
East Palestine.....	5,750	A. D. Ladd.	Shadyside.....	3,064	G. M. McCommon.
East Youngstown.....	11,237	W. Marshall Coursen.	Shelby.....	5,578	R. I. Lewis.
Eaton.....	3,210	John O'Leary.	Sidney.....	8,390	Henry A. Hartman.
Elmwood Place.....	3,991	W. S. Eversull.	Springfield.....	60,340	Geo. E. McCord.
Elyria.....	20,474	F. M. Shelton.	Staubenville.....	28,508	R. L. Erwin.
Euclid.....	3,363	Wilbert A. Franks.	Struthers.....	5,847	W. P. Moody.
Fairport (P. O.) Fairport Harbor.....	4,211	M. C. Helm.	Tiffin.....	14,375	Chas. A. Krout.
Findlay.....	17,021	I. F. Matteson.	Toledo.....	243,164	Chas. S. Meek.
Fostoria.....	9,987	F. H. Warren.	Toronto.....	4,684	S. C. Dennis.
Franklin.....	3,071	G. H. Gerke.	Troy.....	7,260	T. E. Hook.
Fremont.....	12,468	F. P. Timmons.	Uhrichsville.....	6,428	Harry B. Galbraith.
Gallion.....	7,374	J. J. Phillips.	Upper Sandusky.....	3,708	E. H. Brown.
Gallipolis.....	6,070	W. G. Scarberry.	Urbana.....	7,621	I. N. Keyser.
Garfield Heights.....	2,550	Jas. H. Fortney.	Van Wert.....	8,100	H. L. Sullivan.
Geneva.....	3,081	H. L. Cash.	Wadsworth.....	4,742	P. V. Kreider.
Girard.....	6,556	M. M. Bryson.	Wapakoneta.....	5,295	C. C. Nardin.
Gloster.....	3,140	E. L. Porter.	Warren.....	27,050	H. B. Turner.
Greenfield.....	4,344	Minor McCool.	Washington, C. H.....	7,962	Wm. McClain.
Greenville.....	7,104	Darrell Joyce.	Wauseon.....	3,035	E. L. Bowsher.
Hamilton.....	39,675	O. C. Jackson.	Wellston.....	6,687	S. H. Maharry.
Hillsboro.....	4,356	A. E. Robinson.	Wellsville.....	8,849	S. E. Daw.
Hubbard.....	3,320	E. Q. Swan.	West Park.....	8,581	F. E. Reynolds.
Ironton.....	14,007	J. E. Kinnison.	Willard.....	3,889	W. C. Kramer.
Jackson.....	5,842	Chas. E. McCorkle.	Willoughby.....	2,656	O. K. Probasco.
Kenmore.....	12,683	W. A. Walls.	Wilmington.....	5,037	Geo. C. Maurer.
Kent.....	7,070	D. B. Clark.	Wooster.....	8,204	C. A. Waltz.
Kenton.....	7,690	C. P. Lynch.	Xenia.....	9,110	O. L. Reid.
Lakewood.....	41,732	J. R. Clements.	Youngstown.....	132,358	F. C. Kirkendall.
Lancaster.....	14,706	Claude A. Bruner.	Zanesville.....	29,569	
Lebanon.....	3,396	H. S. Floyd.			
Leetonia.....	2,688	J. E. Collins.			
Lima.....	41,326	Wm. H. Geiger.			
Lisbon.....	3,113	A. L. Heer.			
Lockland.....	4,007	C. F. Ridgley.			
Logan.....	5,493	W. H. Rice.			
London.....	4,080	D. J. Boone.			
Lorain.....	37,295	H. H. Helter.			
Mansfield.....	27,824	B. O. Skinner.			
Marietta.....	15,140	H. R. McVay.			
Marion.....	27,891	R. C. Maston.			
Martins Ferry.....	11,634	W. R. Hoover.			
Marysville.....	3,635	Lewis E. York.			
Massillon.....	17,428				
			OKLAHOMA.		
			Ada.....	8,012	J. E. Hickman.
			Altus.....	4,522	A. B. Smith.
			Alva.....	3,913	Albert W. Fanning.
			Anadarko.....	3,116	L. O. McClure.
			Ardmore.....	14,181	C. W. Richard.
			Bartlesville.....	14,417	G. B. Clift.
			Blackwell.....	7,174	A. J. Lovett.
			Bristow.....	3,480	C. E. Hutton.

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
OKLAHOMA—con.			OREGON—contd.		
Cardin.....	2,640	T. T. Montgomery.	Oregon City.....	5,686	R. W. Kirk.
Chickasha.....	10,179	A. W. Bevers.	Pendleton.....	7,887	H. E. Inlow.
Charmore.....	3,435	P. B. Humphrey.	Portland.....	258,288	D. A. Grout.
Cleveland.....	3,717	W. W. Isle.	Roseburg.....	4,381	M. S. Hamm.
Clinton.....	2,009	A. P. Lever.	Salem.....	17,679	George W. Hug.
Coalgate.....	3,801	E. J. Stevenson.	The Dalles.....	5,807	R. L. Kirk.
Collinsville.....	2,555	H. C. Calhoun.			
Commerce.....	6,326	J. D. Barney.	PENNSYLVANIA.		
Cushing.....	6,460	W. C. French.	Alliquippa.....	2,931	A. D. Dungan.
Drumright.....	3,463	Hughes B. Davis.	Allentown.....	* 78,051	H. W. Dodd.
Duncan.....	3,814	R. R. Tompkins.	Altoona.....	60,331	S. H. Layton.
Durant.....	2,737	Arthur L. Richards.	Ambler.....	3,094	J. M. Fisher.
Elk City.....	7,737	C. E. Grady.	Ambridge.....	12,730	Charles S. McVay.
Enid.....	16,576	F. O. Price.	Apollo.....	3,227	J. D. Boydston.
Frederick.....	3,822	J. O. Shaw.	Archbald.....	8,603	W. A. Kelly.
Guthrie.....	11,757	C. N. Peak.	Arnold.....	6,120	D. F. Dettler.
Harshorne.....	3,480	C. E. Fair.	Ashland.....	6,666	Edward W. Taylor.
Henryetta.....	3,889	John T. Hedley.	Ashley.....	6,520	A. P. Cope.
Hobart.....	3,936	F. A. Balyeat.	Aspinwall (P. O., Pittsburgh).....	3,170	F. D. Keboch.
Holdenville.....	2,932	C. L. Reeves.	Athens.....	4,384	R. G. Wiltmer.
Hominy.....	2,875	M. P. Hammond.	Avon (P. O., Pittsburgh).....	5,277	S. Todd Perley.
Hugo.....	3,368	Jas. B. Earle.	Avoca.....	4,950	Charles B. Webber.
Idabel.....	3,067	M. L. Cotton.	Bangor.....	5,402	John W. Gruver.
Lawton.....	8,930	W. G. Materson.	Barnesboro.....	4,183	E. D. Ott.
McAlester.....	12,095	A. A. Ramsey.	Beaver.....	4,135	John H. Eisenhaver.
Madill.....	2,717	Wallace Emerson.	Beaver Falls.....	12,802	Floyd Atwell.
Mangum.....	3,405	John Lofly.	Bellefonte.....	3,996	Arthur H. Sloop.
Miami.....	6,802	Richard J. Tighe.	Bellevue.....	8,198	T. E. Garber.
Muskogee.....	30,277	J. W. Turner.	Bellwood.....	2,629	C. A. Hamilton.
Nauvoo.....	2,533	A. S. Faulkner.	Bentleyville.....	3,679	C. C. Pearsall.
Norman.....	5,004	H. Clay Fisk.	Berwick.....	12,181	M. E. Houck.
Nowata.....	4,435	J. A. Whiteford.	Bethlehem.....	50,358	James N. Muir.
Oldahoma.....	91,295	H. B. Bruner.	Birdsboro.....	3,289	C. E. Cole.
Oklahoma.....	17,430	John R. Butcher.	Blairsville.....	4,391	H. B. Seville.
Okmulgee.....	3,694	L. S. Stephens.	Blakely (P. O., Peckville).....	6,564	
Pauls Valley.....	6,154	W. F. Shultz.	Bloomsburg.....	7,819	L. Parvin Sterner.
Pawhuska.....	3,676	C. S. Wortman.	Boyetown.....	3,189	Geo. B. Swinchart.
Perry.....	7,051	J. N. Hamilton.	Brackenridge.....	4,987	Robert R. Anderson.
Ponca City.....	2,679	W. A. Erdman.	Braddock.....	20,879	T. G. McCleary.
Poteau.....	2,699	K. W. Harris.	Bradford.....	15,526	James F. Butterworth.
Purcell.....	4,076	Alvin C. Elliott.	Bridgeport.....	4,680	H. E. James.
Sand Springs.....	11,354	J. R. Barton.	Bridgeville.....	3,092	W. M. Edwards.
Sapulpa.....	15,348	Hugh G. Faust.	Bristol.....	10,273	Louise D. Baggs.
Shawnee.....	7,701	W. H. Bishop.	Brookville.....	3,272	C. E. Wilson.
Stillwater.....	3,667	A. C. Floyd.	Brownsville.....	2,502	Jesse Coldren.
Sulphur.....	72,075	E. E. Oberholtzer.	Burnham.....	2,785	Elmer E. Sipe.
Tulsa.....	5,010	M. R. Floyd.	Butler.....	23,778	Jno. A. Gibson.
Union.....	3,436	James O. Crook.	Canonsburg.....	10,632	F. W. McVay.
Wagoner.....	3,032	Jno. H. Andrews.	Carbondale.....	18,640	Evan J. Lewis.
Walters.....	3,204	J. W. Shipp.	Carlisle.....	10,916	John C. Wagner.
Waurika.....	3,840	E. H. Homberger.	Carnegie.....	11,516	Thomas J. George.
Woodward.....	2,749	Harry D. Simmons.	Carriock (P. O., Pittsburgh).....	10,504	Wm. H. Sprenkle.
Wynona.....	2,601	S. C. Kerrin.	Catsaqua.....	4,714	H. J. Reinhard.
Yale.....			Centerville.....	4,793	Mary Kane.
OREGON.			Chambersburg.....	13,171	U. L. Gordy.
Albany.....	4,840	C. W. Boetticher.	Charleroi.....	11,516	Thomas L. Pollock.
Ashland.....	4,283	George A. Briscoe.	Chester.....	58,030	Charles A. Wagner.
Astoria.....	14,027	Arthur C. Strange.	Chester.....	6,264	F. N. Frits.
Baker.....	7,729	S. W. Moore.	Clairton.....	2,793	C. A. Middlewarth.
Bend.....	5,415	J. O. McLaughlin.	Clearfield.....	8,529	Geo. E. Zerles.
Corvallis.....	5,752	R. R. Turner.	Clifton Heights.....	3,469	Sarah Edwards.
Dallas.....	2,701	E. F. Carleton.	Climer.....	2,867	D. L. Winger.
Eugene.....	10,593	W. J. Mishler.	Coaldale.....	6,336	John E. Oldes.
Grants Pass.....	3,151	Arnur M. Cannon.	Coatesville.....	14,515	H. R. Vanderville.
Hood River.....	3,195	J. Percy Wells.	College Hill (P. O., Beaver Falls).....	2,643	W. G. Lambert.
Klamath Falls.....	4,981	A. C. Hampton.	Collingsdale (P. O., Darby).....	3,834	S. Ella Stern.
La Grande.....	6,913	Omar N. Bittner.			
McMinnville.....	2,767	C. A. Howard.			
Marshfield.....	4,034	Aubrey G. Smith.			
Medford.....	5,756	A. C. Stanbrough.			
Newberg.....	2,566	G. A. Ruring.			
North Bend.....	3,268				

\* Includes South Allentown borough, population 2,549.

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
<b>PENNSYLVANIA— continued.</b>			<b>PENNSYLVANIA— continued.</b>		
Columbia.....	10,836	Wm. C. Sampson.	Gettysburg.....	4,439	Thomas S. March.
Connellsville.....	13,804	Bella B. Smith.	Gilberton.....	4,766	C. A. Burke.
Conshohocken.....	8,481	C. B. Hottenstein.	Girardville.....	4,482	Herbert S. Rausch.
Coplay.....	2,846	William Shetlock.	Glassport.....	6,959	John S. Hart.
Coraopolis.....	6,162	J. C. Werner.	Greensburg.....	15,033	Thos. S. March.
Corry.....	7,228	A. Earle Hemstreet.	Greenville.....	8,101	G. B. Gerberich.
Coudersport.....	2,836	George A. Retan.	Grove City.....	4,944	H. M. B. Lehn.
Crafton.....	5,954	Calvin Bowman.	Hamburg.....	2,764	John N. Land.
Curwensville.....	2,973	Grant Norris.	Hanover.....	8,664	A. J. English.
Dale (P. O., Johnstown).	3,115	J. T. Ruhl.	Harrisburg.....	75,917	Frederick E. Downes.
Danville.....	6,952	D. N. Dieffenbacher.	Hazleton.....	32,277	A. D. Thomas.
Darby.....	7,922	Amos Chamberlain.	Hellertown.....	3,008	Robert N. Taylor.
Derry.....	2,889	James C. Bryson.	Hollidaysburg.....	4,071	H. J. Barrett.
Dickson City.....	11,049	P. M. Brennan.	Homestead.....	20,452	Landis Tanger.
Donora.....	14,131	Thos. M. Gilland.	Honesdale.....	2,756	J. J. Koehler.
Dormont (P. O., Pittsburgh).	6,455	Ralph Radcliffe.	Hummelstown.....	2,654	T. O. Mitman.
Dorranceton (P. O., Wilkes-Barre).	6,334	C. B. Hanyen, jr.	Huntingdon.....	7,051	E. R. Barclay.
Donningtown.....	4,024	A. B. Moyer.	Indiana.....	7,043	F. Ernest Work.
Doylstown.....	3,837	Carmon Roes.	Ingram (P. O., Pittsburgh).	2,900	M. A. Steiner.
Dubois.....	13,681	T. T. Allen.	Irwin.....	3,235	Samuel Fausold.
Dummore.....	20,250	C. F. Hoban.	Jeannette.....	10,627	E. W. Long.
Dupont (P. O., Avoca).	4,576	Miss K. Brown.	Jenkintown.....	3,366	Dale S. Barton.
Duquesne.....	19,011	C. H. Walford.	Jermyn.....	3,326	H. H. Rounds.
Duryea.....	7,776	A. C. Lutz.	Jersey Shore.....	6,103	J. G. Dundore.
East Conemaugh (P. O., Conemaugh).	5,256	J. M. Uhler.	Johnsonburg.....	5,400	S. M. Robb.
East Mauch Chunk.	3,868	Owen E. Batt.	Johnstown.....	67,327	H. J. Stockton.
Easton.....	33,813	Robert E. Laramy.	Junata.....	7,660	M. B. Wineland.
East Pittsburgh.....	6,527	Melvin C. Harner.	Kane.....	7,283	H. O. Dietrick.
East Stroudsburg.....	4,855	Chas. A. Goss.	Kingston.....	8,952	J. R. Merkel.
Eddystone (P. O., Chester).	2,670	Lydia Griswell.	Kittanning.....	7,153	Clyde W. Cranmer.
Edgewood (P. O., Pittsburgh).	3,181	R. C. McElfish.	Knoxville (P. O., Mount Oliver).	7,201	Milo H. Miller.
Edwardsville (P. O., Kingston).	9,027	J. O. Herman.	Kulpmont.....	4,695	J. A. Shovlin.
Elizabeth.....	2,708	D. R. Douglass.	Kutztown.....	2,684	Harry B. Yoder.
Elizabethtown.....	3,319	S. A. Conway.	Lancaster.....	53,150	H. B. Work.
Ellsworth.....	2,828	Mrs. Marion S. McDowell.	Lansdale.....	4,728	J. Walter Gapp.
Ellwood City.....	8,958	C. F. Becker.	Lansdowne.....	4,797	Walter L. Philips.
Emaus.....	4,370	Howard J. Yeager.	Lansford.....	9,625	E. E. Kuntz.
Emporium.....	3,036	J. Milton Lord.	Larksville (P. O., Wilkes-Barre).	9,438	M. L. McCann.
Ephrata.....	3,735	H. E. Gehman.	Latrobe.....	9,484	Charles S. Miller.
Erie.....	93,372	Ira B. Bush.	Lebanon.....	24,643	E. M. Balsbaugh.
Etna (P. O., Pittsburgh).	6,341	Wm. M. Stewart.	Leechburg.....	3,991	S. M. Neagle.
Exeter (P. O., Pittston).	4,176	Elizabeth Dougher.	Lehighton.....	6,102	B. M. Shull.
Export.....	2,596	George F. Long.	Lewistown.....	3,204	Harry S. Bourne.
Farrell.....	15,586	Port Eckles.	Lewistown.....	9,849	W. A. Hutchison.
Ford City.....	5,605	R. D. Welch.	Lititz.....	3,680	I. Clement Mumert.
Forest City.....	6,004	E. E. Jones.	Lock Haven.....	8,557	N. P. Benson.
Forty Fort (P. O., Kingston).	3,389	A. A. Killian.	Luzerne.....	5,998	T. G. Osborne.
Frackville.....	5,590	William R. Trautman.	Lykens.....	2,880	J. H. Gaskins.
Franklin.....	9,970	C. E. Carter.	McAdoo.....	4,674	Sallie Ferry.
Franklin (P. O., Conemaugh).	2,632	Everett E. Custer.	McDonald.....	2,751	William L. Moore.
Freedom.....	3,452	F. A. Barkley.	McKeesport.....	46,781	J. B. Ritchey.
Freedland.....	6,666	N. P. Luckenbill.	McKees Rocks.....	16,713	T. K. Johnston.
Freeport.....	2,696	H. H. Elliott.	Mahanoy City.....	15,599	H. A. Oday.
Galeton.....	2,969	D. E. Courtney.	Manheim.....	2,712	H. C. Sabold.
Gallitzien.....	3,580	R. H. Biter.	Mechanicsburg.....	4,688	E. P. Heckert.
			Media.....	4,109	Anna L. McCarthy.
			Mechanicsburg.....	4,688	W. W. Irwin.
			Media.....	4,109	Ralph Jacoby.
			Middletown.....	5,920	Wm. H. Micheals.
			Middletown.....	5,452	D. H. Bauman.
			Midland.....	5,920	H. J. Wickey.
			Millersburg.....	2,936	Frank C. Ketter.
			Millvale.....	8,031	J. F. Adams.
			Milton.....	8,638	C. C. Williamson.
			Miners Mills (P. O., Wilkes-Barre).	4,365	Carl L. Millward.
					Michael A. Toole.

\* City.

\* Borough.



## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
PENNSYLVANIA— continued.			PENNSYLVANIA— continued.		
Minersville.....	7,845	C. E. Roudabush.	St. Marys.....	6,967	J. J. Lynch.
Monaca.....	3,838	L. C. French.	Sayre.....	8,078	L. E. De Ladey.
Monessen.....	18,179	H. E. Grass.	Schuylkill Haven.	5,437	Allan F. Bubeck.
Monongahela.....	8,068	Renwick G. Dean.	Scottsdale.....	5,768	J. N. Wangaman.
Moosic.....	4,364	C. E. Drumm.	Scranton.....	137,783	S. E. Weber.
Morrisville.....	3,639	Clement C. Callin.	Sewickley.....	4,965	Geo. E. Mark.
Mount Carmel.....	17,469	W. M. Yeingst.	Shamokin.....	21,204	Joseph Howarth.
Mount Oliver.....	5,575	Minnie Ubinger.	Sharon.....	21,747	W. D. Gamble.
Mount Pleasant.....	5,862	John C. Haberland.	Sharpsburg.....	8,921	John J. Donovan.
Mount Union.....	4,744	C. C. Smith.	Sharsville.....	4,674	Wm. M. Johnston.
Munhall.....	6,418	Charles R. Stone.	Shenandoah.....	24,726	J. W. Cooper.
Nanticoke.....	22,614	A. P. Diffendaefer.	Shippensburg.....	4,372	A. Lee Shulenberger.
Nanty Glo.....	5,028	H. C. Balsgiver.	Slatington.....	4,014	J. W. Snyder.
Narberth.....	3,704	George H. Wilson.	Somerset.....	3,121	F. F. Foltz.
Nazareth.....	4,288	F. A. Marcks.	Souderton.....	3,125	A. L. Gehman.
New Brighton.....	9,361	S. W. Lyons.	South Brownsville	4,675	A. M. Jarman.
New Castle.....	44,938	Ben G. Graham.	South Fork.....	4,239	Philip J. Lent.
New Kensington.....	11,987	Berlin Empfield.	Southwest Greens-	2,538	Charles E. Marsh.
New Philadelphia (P. O., Silver Creek).....	2,537	George Melevage.	burg (P. O., Greensburg).		
Norristown.....	32,319	A. S. Martin.	South Williams-	4,341	A. B. Elder.
Northampton.....	9,349	William D. Landis.	port (P. O., Williamsport).		
North Belvernon (P. O., Belle Vernon).....	2,005	John H. Lfnn.	Spangler.....	3,035	T. J. Sullivan.
North Braddock (P. O., Brad-	14,928	H. G. Means.	Spring City.....	2,944	Werner E. De Turck.
dock).....			Springdale.....	2,929	H. Frank Hare.
North East.....	3,481	W. J. McQuiston.	Steelton.....	13,428	Chas. S. Davis.
Northumberland.....	4,061	C. H. Fisher.	Stroudsburg.....	5,278	Robert Brown, jr.
Oakmont.....	5,512	W. Lee Gilmore.	Sugar Notch.....	2,612	O. L. Lenahan.
Oil City.....	21,274	James J. Palmer.	Summit Hill.....	5,499	E. T. McGready.
Old Forge.....	12,237	Francis R. Coyne.	Sunbury.....	15,721	W. A. Goseeey.
Olyphant.....	10,236	M. W. Cummings.	Susquehanna De-	3,764	James A. Bowles.
Oscoda.....	2,512	Burr Hall.	pot.		
Palmerton.....	7,168	B. Frank Rosen-	Swissvale.....	10,908	C. C. Kelso.
		berry.	Swoyerville (P.	6,876	Joseph H. Finn.
Palmira.....	3,646	C. F. Harnish.	O., Wilkes-		
Parkesburg.....	2,543	Lyord L. Coil.	Barre).....		
Parnassus.....	3,816	W. Ray Smith.	Sykesville.....	2,507	Coy N. Shellits.
Parsons.....	5,628	E. A. Evans.	Tamaqua.....	12,363	J. F. Derr.
Patton.....	3,628	Wm. Boeserman.	Tarentum.....	8,025	A. D. Endsley.
Pen Argyl.....	4,096	William E. Muth.	Taylor.....	9,876	Wm. S. Robinson.
Perkasie.....	3,150	L. H. Wagenhorst.	Throop (P. O.,	6,672	John J. O'Hara.
Philadelphia.....	1,923,779	Edwin C. Broome.	Olyphant).....		
Philipsburg.....	3,900	C. V. Erdly.	Titusville.....	8,432	Henry Pease.
Phoenixville.....	10,484	Isaac Doughton.	Towanda.....	4,269	Everett A. Quacken-
Pitcairn.....	5,738	C. W. Peters.			bush.
Pittsburgh.....	588,343	Wm. M. Davidson.	Trafford.....	2,859	S. L. Topper.
Pittston.....	18,497	D. J. Cray.	Turtle Creek.....	8,138	W. A. Rodgers.
Plymouth.....	16,500	S. L. Smith.	Tyrone.....	9,064	W. W. Eisenhart.
Polk.....	2,662	W. Clyde Richey.	Union City.....	3,850	H. H. Denison.
Portage.....	4,804	R. R. Beard.	Uniontown.....	15,692	J. H. Alleman.
Port Carbon.....	2,862	Ira A. Goss.	Vandergrift.....	9,531	Charles H. Omo.
Port Vue (P. O.,	2,538	A. E. Leffler.	Verona.....	3,938	U. G. Palmer.
McKeesport).....			Warren.....	14,272	R. T. Adams.
Pottstown.....	17,431	W. W. Rupert.	Washington.....	21,480	J. C. Stiers.
Pottsville.....	21,876	George H. Weiss.	Waynesboro.....	9,720	J. Clair McCullough.
Prospect Park (P.	2,536	B. H. Johnson.	Waynesburg.....	3,332	R. M. Archibald.
O., Moores).....			Wellsboro.....	3,452	Rock L. Butler.
Punk'sutawney.....	10,311	F. S. Jackson.	West Chester.....	11,717	Addison L. Jones.
Quakertown.....	4,391	Carl G. Leech.	West Haverketon.	5,854	Ernest Encke.
Rankin (P. O.,	7,301	C. L. Wilson.	West Homestead	3,435	F. L. Rose.
Braddock).....			(P. O., Home-		
Reading.....	107,784	Charles S. Foos.	stead).....		
Red Lion.....	3,198	William H. Ott.	West Newton.....	2,645	Claude Mitchell.
Renovo.....	5,777	F. A. Berkenstock.	West Pittston (P.	6,968	L. P. Bierly.
Reynoldsville.....	4,116	M. H. Deardorff.	O., Pittston).....		
Ridgway.....	6,037	W. M. Peirce.	West Reading (P.	2,921	William S. Delp.
Rochester.....	6,957	S. R. Grumm.	O., Reading).....		
Royersford.....	3,278	J. A. Uhland.	Westview (P. O.,	2,797	H. N. Hennon.
St. Clair (P. O.,	6,585	Alice Mulligan.	Pittsburgh).....		
Mount Oliver).....			West York (P. O.,	3,320	
St. Clair (Schuyl-	6,495	T. G. Jones.	York).....		
kill County).....			Wilkes-Barre.....	73,833	H. H. Zelser.
			Wilkesburg.....	21,403	James L. Allison.
			Williamsport.....	36,198	F. W. Robbins.

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Popula- tion, census of 1920.	Superintendent or supervising principal.	City.	Popula- tion, census of 1920.	Superintendent or supervising principal.
PENNSYLVANIA— continued.			SOUTH CAROLINA— continued.		
Williamstown.....	2,878	H. C. Snyder.	Greenville.....	23,127	J. L. Mann.
Wilmerding.....	6,441	Chas. W. Shaffer.	Greenwood.....	8,703	W. E. Black.
Wilson.....	3,243	C. H. Keibler.	Hartsville.....	3,624	J. H. Thornwell.
Windber.....	9,462	W. C. Crawford.	Lancaster.....	3,032	Holmes H. Scott.
Winton.....	7,583	John J. Judge.	Laurens.....	4,629	H. W. Gasque.
Woodlawn.....	12,495	O. H. Locke.	Marion.....	3,892	T. C. Easterling.
Wyoming.....	3,582	John E. Piatt.	Newberry.....	5,894	O. B. Cannon.
York.....	47,512	A. Wanner.	Orangeburg.....	7,290	A. J. Thackston.
RHODE ISLAND.			Rock Hill.....	8,809	R. C. Burts.
Barrington.....	3,897	Charles H. Keyes.	Spartanburg.....	22,638	Frank Evans.
Bristol.....	11,375	William C. Hobbs.	Summerville.....	2,550	Jas. H. Spann.
Burrillville (P. O., Harrisville).	8,606	J. C. Sweeney.	Sumter.....	9,508	S. H. Edmunds.
Central Falls.....	24,174	Robert K. Bennett.	Union.....	6,141	Davis Jaffries.
C Coventry.....	5,670	John H. Bailey, Jr.	Yorkville (P. O., York).	2,731	E. A. Montgomery.
Cranston (P. O., Providence).	29,407	John K. Fenner.	SOUTH DAKOTA.		
Cumberland (P. O., Valley Falls).	10,077	Irving C. Mitchell.	Aberdeen.....	14,337	Jos. T. Glenn.
East Greenwich.....	3,290	I. C. Phillips.	Brookings.....	3,924	S. W. Johnson.
East Providence..	21,793	James R. D. Old- ham.	Huron.....	8,302	David E. Cloyd.
Johnston (P. O., Providence).	6,855	Lofton L. Dudley.	Lead.....	5,013	O. C. Prichard.
Lincoln (P. O., Lonsdale).	9,543	John L. Smith.	Madison.....	4,144	Clarence E. Nickle.
Newport.....	30,255	Herbert W. Lull.	Mitchell.....	8,478	J. C. Lindsey.
North Kingstown. (P. O., Davis- ville).	3,397	Henry M. Walradt.	Mobridge.....	3,517	W. R. Van Walker.
North Providence (P. O., Provid- ence).	7,097	William J. Harper.	Pierre.....	3,309	R. E. Rawlins.
North Smithfield (P. O., Woon- socket).	3,200	Phoebe Headrick (asst.).	Rapid City.....	5,777	Amos Groethe.
Pawtucket.....	64,246	Frank O. Draper.	Redfield.....	2,755	G. W. Crossman.
Pattsmouth.....	2,590	Isabella G. Chase.	Sioux Falls.....	25,302	A. A. McDonald.
Providence.....	237,595	Isaac O. Winslow.	Vermillion.....	2,590	J. S. Bjornson.
Scituate (P. O., North Scituate).	3,006	E. P. Colson.	Watertown.....	9,400	T. A. Harmon.
Smithfield (P. O., Centerdale).	3,199	Clovis W. Mitchell.	Yankton.....	5,024	Henry Buellensfield.
South Kingstown (P. O., King- ston).	5,181	Wm. A. Brady.	TENNESSEE.		
Tiverton.....	3,894	Louis M. Wagen.	Alcoa.....	3,358	V. T. Holtquist.
Warren.....	7,841	Leroy G. Staples.	Alton Park.....	3,020	F. H. Trotter.
Warwick.....	13,481	William F. Miner.	Athens.....	2,580	J. C. Bidenour.
Westerly.....	9,952	Willard H. Bacon.	Bristol.....	8,047	R. B. Rubins.
West Warwick (P. O., River Point).	15,461	John F. Deering.	Brownsville.....	3,062	C. W. Anderson.
Woonsocket.....	43,496	Wendell A. Mowry.	Chattanooga.....	57,895	J. S. Ziegler.
SOUTH CAROLINA.			Clarksville.....	8,110	A. J. Smith.
Abbeville.....	4,570	James D. Fulp.	Cleveland.....	6,522	R. T. Allen.
Aiken.....	4,103	W. J. McGarity.	Columbia.....	5,526	R. L. Harris.
Anderson.....	10,570	E. C. McCants.	Covington.....	3,410	W. A. Bass.
Batesburg.....	2,848	W. F. Scott.	Dyersburg.....	6,444	L. Jere Cooper.
Beaufort.....	2,831	George H. Webber.	East Chattanooga.	4,720	J. L. Hair.
Bennettsville.....	3,187	K. D. Senn.	Elizabethtown.....	2,749	A. Watson Carmack.
Camden.....	8,930	John G. Richards, Jr.	Erwin.....	2,965	D. M. Laws.
Charleston.....	67,957	A. B. Rhett.	Etowah.....	2,516	F. H. Carey.
Cheraw.....	3,150	J. K. McCown.	Fayetteville.....	3,629	B. D. Johnson.
Chester.....	5,557	M. E. Brockman.	Franklin.....	3,123	A. J. Haun.
Clinton.....	3,767	J. H. Witherspoon.	Gallatin.....	2,757	Claude Lowry.
Columbia.....	37,524	W. H. Hand.	Greenville.....	3,775	A. C. Duggins.
Darlington.....	4,669	J. C. Daniel.	Harriman.....	4,019	P. D. Neilson.
Easley.....	3,568	J. V. McElveen.	Humboldt.....	3,913	R. E. Bright.
Eau Claire (P. O., Columbia).	2,566	Maurice Alcorn.	Jackson.....	18,860	C. B. Ijams.
Florence.....	10,968	Edwin C. Wade.	Johnson City.....	12,442	D. R. Haworth.
Gaffney.....	5,065	W. C. Taylor.	Kingsport.....	5,692	S. W. Gentry.
Georgetown.....	4,579	Wm. C. Bynum.	Knoxville.....	77,818	W. E. Miller.
			La Follie.....	3,066	Pat W. Kerr.
			Lebanon.....	4,084	W. Lee Harris.
			Lenoir City.....	4,210	J. H. Jarvis.
			Lewisburg.....	2,711	J. G. Stinson.
			McMinnville.....	2,814	E. L. Newman.
			Martin.....	2,337	Eph. P. Smith.
			Maryville.....	3,739	Claude D. Curtis.
			Memphis.....	162,351	Wharton S. Jones.
			Morristown.....	5,575	C. C. Sherrod.
			Murfreesboro.....	5,567	J. C. Mitchell.
			Nashville.....	118,842	H. C. Weber.
			Newport.....	2,753	Allen D. Justus.
			Paris.....	4,730	M. M. Phillips.
			Pulaski.....	2,780	Annie L. Huff.
			Rockwood.....	4,652	N. A. Steadman.
			St. Elmo.....	3,800	
			Shelbyville.....	2,912	J. C. Goodrich.
			Springfield.....	3,860	W. P. Morton.
			Tracy City.....	2,669	S. D. Maddax.

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
TENNESSEE—con.			TEXAS—contd.		
Trenton.....	2,751	J. M. DeBow.	Marfa.....	3,553	J. E. Conner.
Tullahoma.....	3,479	D. Henry Piper.	Marlin.....	4,310	A. C. Ferguson.
Union City.....	4,412	F. E. Ranck.	Marshall.....	14,271	J. P. Glasgow.
TEXAS.			Mart.....	3,105	J. J. Youngblood.
Abilene.....	10,274	R. D. Green.	Memphis.....	2,839	D. R. Hibbetts.
Amarillo.....	15,494	M. H. Duncan.	Mercedes.....	3,414	Nannie Mer Buck.
Arlington.....	3,031	J. A. Kookin.	Mexia.....	3,482	James F. Johnson.
Athens.....	3,176	J. J. Montgomery.	Mineral Wells.....	7,800	R. A. Deen.
Austin.....	34,876	Arthur N. McCallum	Mission.....	3,847	S. L. Hardin.
Ballinger.....	2,767	J. M. Skinner.	Mount Pleasant.....	4,099	P. E. Wallace.
Bay City.....	3,454	B. F. Phelps.	Nacagdoches.....	3,546	R. F. Davis.
Beaumont.....	40,422	M. E. Moore.	Navasota.....	5,060	L. G. Andrews.
Beeville.....	3,063	W. E. Madderra.	New Braunfels.....	3,500	R. H. Marrs.
Belton.....	5,098	L. H. Hubbard.	Orange.....	9,212	E. B. Stover.
Big Spring.....	4,273	A. W. Flaniken.	Palestine.....	11,039	Bonner Frizzell.
Bonham.....	6,008	L. H. Rather.	Paris.....	15,040	J. G. Wooten.
Bowie.....	3,179	T. P. Walker.	Pittsburg.....	2,540	W. S. Fleming.
Brenham.....	5,066	Joseph C. Tucker.	Plainview.....	3,989	W. E. Patty.
Brownsville.....	11,791	T. J. Yoe.	Polytechnic.....	4,338	K. C. East.
Brownwood.....	8,223	Geo. W. Page.	Port Arthur.....	22,251	G. M. Sims.
Bryan.....	6,307	Madison Hall.	Quanah.....	3,691	C. E. Davis.
Burkburnett.....	5,300	E. J. Woodward.	Ranger.....	16,205	E. O. McNew.
Cameron.....	4,298	L. H. Kidd.	San Angelo.....	10,050	Felix E. Smith.
Childress.....	5,003	B. M. Harrison.	San Antonio.....	161,379	Jeremiah Rhodes.
Cisco.....	7,422	J. J. Godbey.	San Benito.....	5,070	J. H. Head.
Clarksville.....	3,386	M. M. White.	San Marcos.....	4,527	E. M. Day.
Cleburne.....	12,820	Emmett Brown.	Seguin.....	3,631	Joe F. Sager.
Coleman.....	2,868	C. H. Hufford.	Sherman.....	15,031	J. C. Pyle.
Comanche.....	3,524	J. B. Layne.	Smithville.....	3,204	R. C. Campbell.
Commerce.....	3,842	A. L. Day.	Sour Lake.....	3,032	J. G. Fuqua.
Cooper.....	2,563	J. H. Newton.	Stamford.....	3,704	N. S. Holland.
Corpus Christi.....	10,522	R. T. Pritchett.	Stephenville.....	3,891	J. D. Bramlette.
Corsicana.....	11,356	H. D. Fillers.	Sulphur Springs.....	5,558	W. L. Willis.
Crockett.....	3,061	Donald McDonald.	Sweetwater.....	4,307	J. O. Chapman.
Cuero.....	3,671	A. S. Bush.	Taylor.....	5,965	J. E. Watts.
Dalhart.....	2,676	James H. Hayes.	Teague.....	3,306	Llewellyn Notley.
Dallas.....	158,976	Justin F. Kimball.	Temple.....	11,033	L. C. Procter.
De Leon.....	3,302	J. O. Milstead.	Terrill.....	8,342	B. H. Miller.
Del Rio.....	10,589	W. D. Notley.	Texarkana.....	11,480	H. W. Stillwell.
Denison.....	17,065	F. B. Hughes.	Texas City.....	2,509	Levi Fry.
Denton.....	7,626	W. T. Doggett.	Tyler.....	12,085	G. O. Clough.
Desdemona.....	3,008	G. D. Holbrook.	Uvalde.....	3,885	A. W. Evans.
Dublin.....	3,229	S. L. Wolfe.	Vernon.....	5,142	E. L. Dohoney.
Eagle Pass.....	5,765	G. B. M. Snyder.	Victoria.....	5,957	Virgil L. Griffin.
Eastland.....	9,368	C. A. Peterson.	Waco.....	38,500	B. B. Cobb.
Electra.....	4,744	B. M. Dinsmore.	Waxahachie.....	7,958	G. B. Winn.
El Paso.....	77,560	A. H. Hughey.	Weatherford.....	6,203	T. W. Stanley.
Ennis.....	7,224	J. W. O'Banion.	Wichita Falls.....	40,079	Lee Clark.
Fort Worth.....	106,482	Milton H. Moore.	Yoakum.....	6,184	R. E. L. Adams.
Gainesville.....	8,648	C. A. Puckett.	UTAH.		
Galveston.....	44,255	John W. Hopkins.	American Fork.....	2,763	P. M. Nielsen.
Georgetown.....	2,871	H. L. Egger.	Bingham Canyon.....	2,676	Lars. W. Nielsen.
Gonzales.....	3,128	K. A. Jones.	Brigham.....	5,282	C. H. Skidmore.
Gorman.....	3,200	W. C. Nunnally.	Eureka.....	3,608	I. L. Williamsen.
Graham.....	2,544	H. B. Cogdell.	Lehi.....	2,078	David R. Mitchell.
Greenville.....	12,384	L. C. Gee.	Logan.....	9,439	Orson Ryan.
Hearne.....	2,741	D. M. Major.	Murray.....	4,584	C. E. Gauffin.
Henrietta.....	2,563	C. F. Walker.	Nephi.....	2,603	Ray Stewart.
Hillsboro.....	6,952	W. T. Lofland.	Ogden.....	32,804	W. Karl Hopkins.
Honey Grove.....	2,642	L. F. Connell.	Park City.....	3,393	J. L. Kearns.
Houston.....	138,276	R. B. Cousins.	Payson.....	3,031	
Huntsville.....	4,689	C. G. Green.	Provo.....	10,303	H. A. Dixon.
Jacksonville.....	3,723	H. T. Brown.	Richfield.....	3,262	A. J. Ashman.
Jefferson.....	2,549	C. E. Farmer.	Salt Lake City.....	118,110	G. N. Child.
Kaufman.....	2,501	O. P. Norman.	Spanish Fork.....	4,036	L. John Nuttall.
Kingsville.....	4,770		Springville.....	3,010	
Laredo.....	22,710	L. J. Christen.	Tooele.....	3,602	E. M. Reid.
Lockhart.....	3,731	J. C. Cochran.	VERMONT.		
Longview.....	5,713	W. F. Garner.	Barre (city).....	10,008	Carroll H. White.
Lubbock.....	4,051	M. M. Dupre.	Barre (town).....	3,862	Waldo F. Glover.
Lufkin.....	4,878	I. A. Coston.	Barton.....	3,506	Carl J. Batchelder.
McAllen.....	5,331	Ed. R. Bentley.	Bennington.....	7,280	D. W. McClelland.
McKinney.....	6,677	J. S. Carlisle.	Brandon.....	2,874	William L. Coggins.
Magnolia Park (P. O., Houston).	4,080	C. E. Barrick.			

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Population, census of 1920.	Superintendent or supervising principal.	City.	Population, census of 1920.	Superintendent or supervising principal.
VERMONT—contd.			VIRGINIA—contd.		
Brattleboro.....	8,332	Florence M. Wellman.	Winchester.....	6,883	F. E. Clerk.
Burlington.....	22,779	Merritt D. Chittenden.	Wytheville.....	2,947	J. A. C. Hurt.
Fair Haven.....	2,540	Philip N. Leavenworth.	WASHINGTON.		
Hardwick.....	2,641	C. L. Cowles.	Aberdeen.....	15,337	George B. Miller.
Hartford.....	4,739	Clarence L. Jay.	Anacortes.....	5,284	Robert M. Fulton.
Lyndon.....	3,558	Martin E. Daniels.	Auburn.....	3,163	J. W. Failor.
Middlebury.....	2,914	Arthur W. Eddy.	Bellingham.....	25,585	D. E. Wiedman.
Montpelier.....	7,125	Sherburn C. Hutchins.	Bremerton.....	8,918	V. D. Goss.
Morristown (P. O., Morrisville).	2,813	Carlton D. Howe.	Centralia.....	7,549	E. T. Robinson.
Newport.....	4,976	E. A. Hamilton.	Charleston.....	3,338	W. L. Selby.
Northfield.....	3,096	Charles P. McKnight	Chehalis.....	4,558	R. E. Cook.
Poultney.....	2,868	R. Rising Morrow.	Cle Elum.....	2,661	Eugene D. Merri-
Proctor.....	2,789	Kenneth J. Sheldon.	Colfax.....	3,027	man.
Randolph.....	3,010	George W. Patterson	Dayton.....	2,695	J. O. Mattoon.
Richford.....	2,842	E. F. Greene.	Ellensburg.....	3,967	L. L. Nolin.
Rockingham (P. O., Bellows Falls).	6,231	C. L. Erwin.	Everett.....	27,644	H. B. Doolittle.
Rutland.....	14,954	W. W. Fairchild.	Hillyard.....	3,942	Arthur Wilson.
St. Albans.....	7,598	George S. Wright.	Hoguliam.....	10,058	W. C. Arterburn.
St. Johnsbury.....	8,708	Clarence C. Hitchcock.	Medical Lake.....	2,545	F. E. Schmeltdtka.
Springfield.....	7,202	Herbert D. Casey.	Mount Vernon.....	3,341	A. K. Millay.
Swanton.....	3,343	Homer F. Hunt.	Olympia.....	7,795	C. A. Nelson.
Waterbury.....	3,542	Merle H. Willis.	Pasco.....	5,362	Elmer L. Breckner.
West Rutland.....	3,391	Philip R. Leavenworth.	Port Angeles.....	5,351	C. H. Lillie.
Windsor.....	3,687	E. K. Boak.	Port Townsend.....	2,847	Charles Briffett.
Winocski.....	4,932	George R. Stackpole.	Puyallup.....	6,323	H. R. Taylor.
VIRGINIA.			Raymond.....	4,260	W. M. Gambill.
Abingdon.....	2,532	J. R. Mort.	Renton.....	3,801	Roy W. Glass.
Alexandria.....	18,060	W. H. Sweeney.	Roslyn.....	2,673	Frank S. Salisbury.
Bedford.....	3,243	J. L. Borden.	Seattle.....	315,312	W. G. Whitfield.
Big Stone Gap.....	3,009	H. L. Sulfridge.	Sedro-Woolley.....	3,389	Frank B. Cooper.
Bristol.....	6,729	Roy B. Bowers.	Seahomish.....	2,985	H. C. Crumppacker.
Buena Vista.....	3,911	J. P. McCluer.	Spokane.....	104,437	George C. Howard.
Cape Charles.....	2,517	D. W. Peters.	Tacoma.....	96,965	O. C. Pratt.
Charlottesville.....	10,688	James G. Johnson.	Toppanish.....	3,120	Wm. F. Geiger.
Clifton Forge.....	6,164	R. C. Bowton.	Vancouver.....	12,637	George Fields.
Covington.....	5,623	J. G. Jeter.	Walla Walla.....	15,503	C. W. Shumway.
Danville.....	21,539	T. H. Wheatley.	Wenatchee.....	6,324	W. M. Kern.
Farmville.....	2,586	M. B. Dickinson.	Yakima.....	18,539	G. M. Warren.
Fredericksburg.....	5,882	E. F. Birkhead.			A. C. Davis.
Graham.....	2,752	H. J. Meredith.	WEST VIRGINIA.		
Hampton.....	6,138	J. H. Brent.	Beckley.....	4,149	Andrew J. Peters.
Harrisonburg.....	5,875	W. H. Keister.	Benwood.....	4,773	F. R. Hanifan.
Lexington.....	2,870	Harrington Waddell.	Bluefield.....	15,282	M. P. Shawkey.
Lynchburg.....	30,070	E. C. Glass.	Buckhannon.....	3,785	Walter R. Grose.
Marion.....	3,253	B. E. Copenhaver.	Charleston.....	39,608	George S. Laidley.
Martinsville.....	4,075	Roy Webster.	Charles Town.....	2,527	Wright Denny.
Newport News.....	35,596	Joseph H. Saunders.	Chester.....	3,283	W. W. Robinson.
Norfolk.....	115,777	Richard A. Dobie.	Clarksburg.....	27,869	J. A. Jackson.
Norton.....	3,068	J. I. Burton.	Elkins.....	6,788	W. W. Trent.
Petersburg.....	31,012	Frank M. Martin.	Fairmont.....	17,851	Otis G. Wilson.
Phoebe.....	3,043	Elfred Forrest.	Follansbee.....	3,135	A. F. Young.
Pocahontas.....	2,591	John H. Crowgey.	Grafton.....	8,517	L. W. Burns.
Portsmouth.....	54,387	Harry A. Hunt.	Hinton.....	3,912	C. H. Tomkies.
Pulaski.....	5,282	J. C. Elliott.	Huntington.....	50,177	F. L. Wright.
Radford.....	4,627	W. K. Barnett.	Keyser.....	6,003	J. C. Sanders.
Richmond.....	171,667	Albert H. Hill.	Logan.....	2,998	F. O. Woerner.
Roanoke.....	50,842	D. E. McQuikin.	McMechen.....	3,356	J. T. King.
Salem.....	4,159	Roland E. Cook.	Mannington.....	3,673	D. C. Tabler.
South Boston.....	4,338	H. J. Watkins.	Martinsburg.....	12,515	William C. Morton.
South Norfolk (P. O., Norfolk).	7,724	G. C. Outland.	Morgantown.....	12,127	Roy C. Smith.
Staunton.....	10,623	G. L. H. Johnson.	Moundsville.....	10,669	John C. Shreve.
Suffolk.....	9,123	Jno. E. Martin.	Parkersburg.....	20,050	H. E. Odgers.
Vinton.....	2,779	H. A. Prillaman.	Piedmont.....	2,835	F. A. Yoke.
			Point Pleasant.....	3,069	A. T. Stanforth.
			Princeton.....	6,224	Willford McCutcheon
			Richwood.....	4,331	H. A. Rice.
			St. Albans.....	2,825	D. D. Riley.
			Salem.....	2,920	Boyd Randal.
			Sistersville.....	3,238	R. B. Marston.
			South Charleston.....	3,650	C. H. Gregory.
			Welch.....	3,232	L. J. Hanifan.

## IV.—SUPERINTENDENTS OF PUBLIC SCHOOLS IN CITIES AND TOWNS—Continued.

City.	Popula- tion, census of 1920.	Superintendent or supervising principal.	City.	Popula- tion, census of 1920.	Superintendent or supervising principal.
WEST VIRGINIA— continued.			WISCONSIN—con.		
Wellsburg.....	4,918	W. N. Beetham.	Park Falls.....	2,676	Geo. E. Denman.
Weston.....	5,701	Frank R. Yoke.	Platteville.....	4,353	F. V. Powell.
Wheeling.....	56,208	C. E. Githens.	Plymouth.....	3,415	C. A. Rubado.
Williamson.....	6,819	A. C. Davis.	Portage.....	5,882	A. J. Henkel.
WISCONSIN.			Port Washington.....		
Antigo.....	8,451	R. A. Brandt.	District No. 1.....		N. G. Leatsner.
Appleton.....	19,561	Carrie E. Morgan.	District No. 4.....	3,340	Josephine Crow.
Ashland.....	11,534	L. O. Hubbard.	Prairie du Chien.....	3,537	W. C. Koepke.
Baraboo.....	5,932	A. C. Kingsford.	Racine.....	58,593	F. M. Longenecker.
Beaver Dam.....	21,284	George R. Ray.	Reedsburg.....	2,997	Russell F. Lewis.
Beloit.....	4,400	F. E. Converse.	Rhineland.....	6,654	W. P. Colburn.
Berlin.....	3,626	C. D. Lamberton.	Rice Lake.....	4,457	E. C. Hirsch.
Burlington.....	9,130	Fred L. Witter.	Richland Center.....	3,409	A. F. Caldwell.
Chippewa Falls.....	9,275	H. N. Goddard.	Ripon.....	3,929	L. P. Goodrich.
Clintonville.....	6,725	F. D. Wartinbee.	Shawano.....	3,544	R. J. McMahon.
Cudahy.....	3,016	Jesse F. Cory.	Shoboygan.....	30,965	J. G. Walvoord.
Delavan.....	4,165	H. A. Melcher.	Shorewood (P. O. Milwaukee).....	2,650	C. R. Rounds.
De Pere.....	20,006	A. L. Simon.	South Milwaukee.....	7,598	Fred. W. Hein.
Eau Claire.....	2,688	William T. Darling.	Sparta.....	4,466	Nicholas Gunderson.
Edgerton.....	23,427	Fred J. Holt.	Stanley.....	2,577	C. W. Dodge.
Fond du Lac.....	4,015	R. W. Fairchild.	Stevens Point.....	11,371	H. C. Snyder.
Fort Atkinson.....	31,017	Frank C. Bray.	Stoughton.....	5,101	J. E. Roberts.
Green Bay.....	31,017	A. W. Burton.	Sturgeon Bay.....	4,553	E. C. Gotham.
Hartford.....	4,515	Arthur Schubert.	Superior.....	39,671	Grace Geary.
Hudson.....	3,014	D. T. John.	Tomah.....	3,257	W. E. Bush.
Hurley.....	18,293	F. O. Murphy.	Tomahawk.....	2,398	Fred Ek.
Janesville.....	2,572	J. E. Hoff.	Two Rivers.....	7,305	Fred G. Bishop.
Jefferson.....	5,851	Earl C. Macinnis.	Viroqua.....	2,574	L. W. Fulton.
Kaukauna.....	40,472	Leo G. Schussman.	Washburn.....	3,707	Howard E. Wilkins.
Kenosha.....	30,421	G. F. Loomis.	Watertown.....	9,399	Thomas J. Berto.
La Crosse.....	3,581	B. E. McCormick.	Waukesha.....	12,558	G. O. Banting.
Ladysmith.....	2,332	M. Lewis.	Waupaca.....	2,339	R. E. Brasure.
Lake Geneva.....	38,573	W. R. Rood.	Waupun.....	4,440	H. S. Hemenway.
Madison.....	17,663	Thomas W. Gosling.	Wausau.....	18,061	Silas B. Tobey.
Manitowoc.....	13,010	F. W. Waite.	Wauwatosa.....	5,818	Philip A. Kolb.
Marinette.....	7,394	P. F. Neverman.	West Allis.....	13,745	T. J. Jones.
Marshfield.....	3,011	Chester Newlun.	West Bend.....	3,378	D. F. McLane.
Mayville.....	7,214	Ralph D. Owen.	Whitewater.....	3,215	A. R. Page.
Menasha.....	5,104	O. H. Plenske.	Wisconsin Rapids.....	7,243	E. G. Doudna.
Menomonic.....	8,068	W. G. Ballentine.	WYOMING.		
Merrill.....	457,147	H. W. Kircher.	Casper.....	11,447	A. A. Slade.
Milwaukee.....	2,569	M. C. Potter.	Cheyenne.....	13,829	A. S. Jessup.
Mineral Point.....	4,788	Arnold A. Vieth.	Evanston.....	3,479	C. C. Voeller.
Monroe.....	7,171	L. R. Creutz.	Greybull.....	2,692	Arthur C. Cross.
Neenah.....	4,667	C. F. Hedges.	Laramie.....	6,801	J. C. Knode.
New London.....	3,047	David Newberry.	Rawlins.....	3,989	C. A. Anderson.
North Milwaukee.....	3,301	D. L. Swartz.	Rock Springs.....	6,456	O. C. Schwiering.
Oconomowoc.....	4,920	E. F. Strong.	Sheridan.....	9,175	J. J. Farly.
Oconto.....	33,162	Henry F. Smith.			
Oshkosh.....		Charles C. Bishop.			

## V.—PRESIDENTS OF UNIVERSITIES AND COLLEGES.

Location.	University or college.	For men, for women, or coedu- cational.	Name of president.
ALABAMA.			
Athens.....	Athens Female College.....	Women.....	Benjamin B. Glasgow, D. D.
Auburn.....	Alabama Polytechnic Institute.....	Coed.....	Spright Dowell, LL. D.
Birmingham.....	Birmingham-Southern College.....	Coed.....	Guy E. Snively, Ph. D.
Do.....	Howard College.....	Coed.....	Charles B. Williams, D. D.
Marion.....	Judson College.....	Women.....	Paul V. Bomar, D. D.
Do.....	Marion Institute.....	Men.....	Hopson O. Murlee, LL. D.
Montgomery.....	Woman's College of Alabama.....	Women.....	Mifflin W. Swartz, Ph. D.
St. Bernard.....	St. Bernard College.....	Men.....	Bernard Menges, O. S. B.
Spring Hill.....	Spring Hill College.....	Men.....	J. C. Kearns, S. J.
Talladega.....	Talladega College (colored).....	Coed.....	F. A. Sumner, B. D.
University.....	University of Alabama.....	Coed.....	George H. Denny, LL. D.

## V.—PRESIDENTS OF UNIVERSITIES AND COLLEGES—Continued.

Location.	University or college.	For men, for women, or coedu- cational.	Name of president.
<b>ARIZONA.</b>			
Tucson.....	University of Arizona.....	Coed.....	
<b>ARKANSAS.</b>			
Arkadelphia.....	Henderson-Brown College.....	Coed.....	James M. Workman, LL. D.
Do.....	Ouachita College.....	Coed.....	Charles E. Dicken, D. D.
Batesville.....	Arkansas College.....	Coed.....	Wm. S. Lacy, D. D.
Clarksville.....	College of the Ozarks.....	Coed.....	Hubert S. Lyle, D. D.
Conway.....	Central Baptist College.....	Women.....	Doak S. Campbell, A. B.
Do.....	Hendrix College.....	Coed.....	
Fayetteville.....	University of Arkansas.....	Coed.....	John C. Futrall, LL. D.
Little Rock.....	Little Rock College.....	Men.....	H. A. Heagney, LL. D.
Searcy.....	Galloway College.....	Women.....	J. M. Williams.
<b>CALIFORNIA.</b>			
Berkeley.....	University of California <sup>1</sup> .....	Coed.....	David P. Barrows, LL. D.
Claremont.....	Pomona College.....	Coed.....	James A. Blaisdell, D. D.
Los Angeles.....	Occidental College.....	Coed.....	Remsen D. Bird, D. D.
Do.....	University of Southern California.....	Coed.....	Rufus B. von Klein Smid, Sc. D.
Mills College.....	Mills College.....	Women.....	Aurelia H. Reinhardt, LL. D.
Oakland.....	St. Mary's College.....	Men.....	Brother Gregory, A. M.
Pasadena.....	California Institute of Technology.....	Men.....	
Redlands.....	University of Redlands.....	Coed.....	Victor L. Duke, LL. D.
St. Helena.....	Pacific Union College.....	Coed.....	Wm. E. Nelson, B. S.
San Francisco.....	St. Ignatius University.....	Men.....	Pius L. Moore, S. J.
San Jose.....	College of Notre Dame.....	Women.....	Sister Julia
Do.....	College of the Pacific.....	Coed.....	Tully C. Knoles, D. D.
San Rafael.....	Dominican College.....	Women.....	
Santa Clara.....	University of Santa Clara.....	Men.....	T. L. Murphy, S. J.
Stanford University.....	Leland Stanford Junior University.....	Coed.....	Ray L. Wilbur, LL. D.
Whittier.....	Whittier College.....	Coed.....	Harry N. Wright, Ph. D.
<b>COLORADO.</b>			
Boulder.....	University of Colorado.....	Coed.....	George Norlin, Ph. D.
Colorado Springs.....	Colorado College.....	Coed.....	Clyde A. Dunlaway, LL. D.
Denver.....	Regis College.....	Men.....	Robert M. Kelley, S. J.
Do.....	Colorado Woman's College.....	Women.....	John W. Bailey, Ph. D.
Do.....	University of Denver.....	Coed.....	Wilber D. Engle, Sc. D., acting.
Fort Collins.....	Colorado Agricultural College.....	Coed.....	Chas. A. Lory, LL. D.
Golden.....	Colorado School of Mines.....	Men.....	Victor C. Alderson, LL. D.
<b>CONNECTICUT.</b>			
Hartford.....	Trinity College.....	Men.....	Remsen B. Ogilby, D. D.
Middletown.....	Wesleyan University.....	Men.....	William A. Shanklin, LL. D.
New Haven.....	Yale University.....	Men.....	James R. Angell, LL. D.
New London.....	Connecticut College for Women.....	Women.....	Benjamin T. Marshall, A. M.
Storrs.....	Connecticut Agricultural College.....	Coed.....	Charles L. Beach, B. S.
<b>DELAWARE.</b>			
Newark.....	University of Delaware.....	Coed.....	Walter Hüllihen, Ph. D.
<b>DISTRICT OF COLUMBIA.</b>			
Washington.....	American University.....	Coed.....	John W. Hamilton, LL. D.
Do.....	Catholic Sisters College.....	Women.....	Patrick J. McCormick, Ph. D., dean.
Do.....	Catholic University of America.....	Men.....	Thomas J. Shahan, S. T. D., rector.
Do.....	Gallaudet College.....	Coed.....	Percival Hall, Litt. D.
Do.....	Georgetown University.....	Men.....	John B. Creeden, Ph. D.
Do.....	George Washington University.....	Coed.....	Howard L. Hodgkins, Ph. D.
Do.....	Howard University (colored).....	Coed.....	J. Stanley Durkee, Ph. D.
Do.....	Trinity College.....	Women.....	Sister Raphael.
Do..... (Tako- ma Park).	Washington Missionary College.....	Coed.....	Marion E. Cady, A. M.

<sup>1</sup> Southern Branch of University of California, Los Angeles, Ernest C. Moore, LL. D., director.

## V.—PRESIDENTS OF UNIVERSITIES AND COLLEGES—Continued.

Location.	University or college.	For men, for women, or coedu- cational.	Name of president.
<b>FLORIDA.</b>			
Deland.....	John B. Stetson University.....	Coed.....	Lincoln Hulley, LL. D.
Gainesville.....	University of Florida.....	Men.....	Albert A. Murphree, LL. D.
Clearwater.....	Southern College.....	Coed.....	R. H. Alderman, A. B.
Tallahassee.....	Florida State College for Women.....	Women.....	Edward Couradi, Ph. D.
Winter Park.....	Rollins College.....	Coed.....	George M. Ward, LL. D.
<b>GEORGIA.</b>			
Athens.....	University of Georgia.....	Men.....	David C. Barrow, LL. D., chan- cellor.
Atlanta.....	Atlanta University (colored).....	Coed.....	Edward T. Ware, A. B.
Do.....	Georgia School of Technology.....	Men.....	
Do.....	Morehouse College (colored).....	Men.....	John Hope, LL. D.
Do.....	Morris Brown University (colored).....	Coed.....	John H. Lewis, A. M.
Augusta.....	Paine College (colored).....	Coed.....	Ray S. Tomlin, B. D., acting.
College Park.....	Cox College.....	Women.....	Wm. S. Cox, B. Arch.
Dahlonega.....	North Georgia Agricultural College.....	Coed.....	Gustavus R. Glenn, LL. D.
Decatur.....	Agnes Scott College.....	Women.....	Frank H. Gaines, LL. D.
Demorest.....	Piedmont College.....	Coed.....	Frank E. Jenkins, D. D.
Emory University.....	Emory University.....	Men.....	Franklin N. Parker, D. D.
Forsyth.....	Bessie Tift College.....	Women.....	Joshua H. Foster, D. D.
Gainesville.....	Brenau College.....	Women.....	Haywood J. Pearce, Ph. D.
Lagrange.....	Lagrange College.....	Women.....	W. E. Thompson, A. B.
Macon.....	Mercer University.....	Men.....	Rufus W. Weaver, LL. D.
Do.....	Wesleyan College.....	Women.....	Wm. F. Quillian, A. B.
Oglethorpe University.....	Oglethorpe University.....	Coed.....	Thornwell Jacobs, LL. D.
Rome.....	Shorter College.....	Women.....	W. D. Furry, Ph. D., acting,
South Atlanta.....	Clark University (colored).....	Coed.....	Harry A. King, D. D.
<b>HAWAII.</b>			
Honolulu.....	University of Hawaii.....	Coed.....	Arthur L. Dean, Ph. D.
<b>IDAHO.</b>			
Caldwell.....	College of Idaho.....	Coed.....	William J. Boone, D. D.
Gooding.....	Gooding College.....	Coed.....	Chas. W. Tenney.
Moscow.....	University of Idaho.....	Coed.....	Alfred H. Upham, Ph. D.
<b>ILLINOIS.</b>			
Abingdon.....	Hedding College.....	Coed.....	Clarence W. Green, Ph. D.
Alton.....	Shurtleff College.....	Coed.....	George M. Potter, A. M.
Aurora.....	Aurora College.....	Coed.....	Orrin R. Janks, D. D.
Bloomington.....	Illinois Wesleyan University.....	Coed.....	Theodore Kemp, LL. D.
Bourbonnais.....	St. Viator College.....	Men.....	W. J. Bergin, C. S. V.
Carthage.....	Carthage College.....	Coed.....	Harvey D. Hoover, S. T. D.
Chicago.....	Armour Institute of Technology.....	Men.....	Howard M. Raymond, E. E., acting.
Do.....	De Paul University.....	Coed.....	Thomas F. Levan, D. D.
Do.....	Lewis Institute.....	Coed.....	Geo. N. Carman, A. M., director.
Do.....	Loyola University.....	Men.....	Wm. H. Agnew, S. J.
Do.....	St. Francis Xavier College.....	Women.....	Sister Mary Sophia.
Do.....	University of Chicago.....	Coed.....	Harry Pratt Judson, LL. D.
Decatur.....	James Millikin University.....	Coed.....	Louis E. Holden, LL. D.
Eureka.....	Eureka College.....	Coed.....	L. O. Lehman, LL. D.
Evanston.....	Northwestern University.....	Coed.....	Walter D. Scott, Ph. D.
Ewing.....	Ewing College.....	Coed.....	Harvey A. Smoot, D. D.
Galesburg.....	Knox College.....	Coed.....	James L. McConaughy, Ph. D.
Do.....	Lombard College.....	Coed.....	Joseph M. Tilden, LL. D.
Greenville.....	Greenville College.....	Coed.....	Eldon Grant Burritt, A. M.
Jacksonville.....	Illinois College.....	Coed.....	Charles H. Rammelkamp, Ph. D.
Do.....	Illinois Woman's College.....	Women.....	Joseph R. Harker, LL. D.
Lake Forest.....	Lake Forest College.....	Coed.....	Herbert McC. Moore, D. D.
Lebanon.....	McKendree College.....	Coed.....	George E. McCammon, D. D.
Lincoln.....	Lincoln College.....	Coed.....	A. E. Turner, LL. D.
Monmouth.....	Monmouth College.....	Coed.....	Thos. H. McMichael, D. D.
Naperville.....	Northwestern College.....	Coed.....	Edward E. Rall, Ph. D.
Peoria.....	Bradley Polytechnic Institute.....	Coed.....	Theodore C. Burgess, Ph. D.
River Forest.....	Rosary College.....	Women.....	Sister M. Clementine, A. M.
Rockford.....	Rockford College.....	Women.....	Wm. A. Maddox, Ph. D.
Rock Island.....	Augustana College.....	Coed.....	Gustav A. Andreen, D. D.
Urbana.....	University of Illinois.....	Coed.....	David Kinley, LL. D.
Wheaton.....	Wheaton College.....	Coed.....	Charles A. Blanchard, D. D.

## V.—PRESIDENTS OF UNIVERSITIES AND COLLEGES—Continued.

Location.	University or college.	For men, for women, or coedu- cational.	Name of president.
<b>INDIANA.</b>			
Bloomington	Indiana University	Coed	William L. Bryan, LL. D.
Crawfordsville	Wabash College	Men	Geo. Lewes Mackintosh, LL. D.
Earlham	Earlham College	Coed	David M. Edwards, Ph. D.
Evansville	Evansville College	Coed	Alfred F. Hughes, S. T. B.
Franklin	Franklin College	Coed	Charles E. Goodell, LL. D.
Goshen	Goshen College	Coed	Irvin R. Detweiler, A. B.
Greencastle	De Pauw University	Coed	Geo. R. Grose, LL. D.
Hanover	Hanover College	Coed	William A. Mills, LL. D.
Indianapolis	Butler College	Coed	Robert J. Aleay, LL. D.
Do	Indiana Central University	Coed	Irby J. Good, A. M.
La Fayette	Purdue University	Coed	Henry W. Marshall, acting.
North Manchester	Manchester College	Coed	Otho Winger, LL. D.
Merom	Union Christian College	Coed	W. S. Alexander.
Notre Dame	St. Mary's College and Academy	Women	Mother M. Pauline, LL. D.
Do	University of Notre Dame	Men	James A. Burns, C. S. C.
Oakland City	Oakland City College	Coed	Wm. P. Dearing, A. B.
St. Mary of the Woods	St. Mary of the Woods College	Women	Mother Mary Cleophas.
Terre Haute	Rose Polytechnic Institute	Men	Philip B. Woodworth, Sc. D.
Upland	Taylor University	Coed	James M. Taylor, D. D.
Valparaiso	Valparaiso University	Coed	John E. Roessler, Litt. D.
<b>IOWA.</b>			
Ames	Iowa State College of Agriculture and Mechanic Arts.	Coed	Raymond A. Pearson, LL. D.
Cedar Rapids	Coe College	Coed	Harry M. Gage, LL. D.
Clinton	Wartburg College	Men	Otto L. Proehl, A. M.
Davenport	St. Ambrose College	Men	Wm. L. Hannon, A. M.
Decorah	Luther College	Men	Oscar L. Olson, Ph. D., acting.
Des Moines	Des Moines University	Coed	John W. Million, LL. D.
Do	Grand View College	Coed	
Do	Drake University	Coed	Arthur Holmes, Ph. D.
Dubuque	Columbia College	Men	A. D. Howard, A. M.
Do	University of Dubuque	Coed	Cornelius M. Steffens, D. D.
Do	Mount St. Joseph College	Women	Sister Mary Chionia.
Fairfield	Parsons College	Coed	R. A. Montgomery, LL. D.
Fayette	Upper Iowa University	Coed	J. P. Van Horn, D. D.
Grinnell	Grinnell College	Coed	John H. T. Main, LL. D.
Hopkinton	Lenox College	Coed	J. F. Hinkhouse, D. D.
Indianola	Simpson College	Coed	John L. Hillman, D. D.
Iowa City	State University of Iowa	Coed	Walter A. Jessup, Ph. D.
Iowa Falls	Ellsworth College	Coed	Ido F. Meyer, A. M.
Le Mars	Western Union College	Coed	Charles A. Mock, Ph. D.
Mount Pleasant	Iowa Wesleyan College	Coed	U. S. Smith, D. D.
Mount Vernon	Cornell College	Coed	
Oskaloosa	Penn College	Coed	Henry E. McGrew, D. D.
Sioux City	Morningside College	Coed	Frank E. Moesman, D. D.
Storm Lake	Buena Vista College	Coed	Arthur M. Boyd, D. D.
Tabor	Tabor College	Coed	Royal S. Montgomery, D.D.
University Park	Central Holiness University	Coed	J. L. Brasher, D. D.
<b>KANSAS.</b>			
Atchison	St. Benedict's College	Men	Innocent Wolf, D. D.
Baldwin City	Baker University	Coed	Osman G. Markham, Litt. D., acting.
Emporia	College of Emporia	Coed	Frederick W. Lewis, D. D.
Highland	Highland College	Coed	J. L. Howe, Ph. B.
Kansas City	Kansas City University	Coed	J. C. Williams, LL. D., chancellor.
Lawrence	University of Kansas	Coed	Ernest H. Lindley, Ph. D.
Lindsborg	Bethany College	Coed	Ernst F. Philblad, D. D.
McPherson	McPherson College	Coed	Daniel W. Kurts, D. D.
Manhattan	Kansas State Agricultural College	Coed	Wm. M. Jardine, LL. D.
Newton	Bethel College	Coed	J. H. Langenwalter, S. T. M.
Ottawa	Ottawa University	Coed	Silas E. Price, D. D.
St. Marys	St. Marys College	Men	William E. Cogley, S. J.
Salina	Kansas Wesleyan University	Coed	L. B. Bowers, D. D.
Sterling	Sterling College	Coed	Ross T. Campbell, D. D.
Topeka	Washburn College	Coed	Farley P. Womer, Sc. D.
Wichita	Fairmount College	Coed	
Do	Friends University	Coed	W. O. Mendenhall, Ph. D.
Winfield	Southwestern College	Coed	Albert E. Kirk, D. D.
<b>KENTUCKY.</b>			
Berea	Berea College	Coed	William J. Hutchins, D. D.
Bowling Green	Ogden College	Men	J. Howard Edgerton, A. M.
Danville	Centre College	Men	



## V.—PRESIDENTS OF UNIVERSITIES AND COLLEGES—Continued.

Location.	University or college.	For men, for women, or coedu- cational.	Name of president.
<b>KENTUCKY—contd.</b>			
Georgetown.....	Georgetown College.....	Coed.....	Maldon B. Adams, LL. D.
Lexington.....	Transylvania College.....	Coed.....	Thomas Macartney, Ph. D., act- ing.
Do.....	University of Kentucky.....	Coed.....	Frank L. McVey, LL. D.
Louisville.....	University of Louisville.....	Coed.....	John Patterson, LL. D., dean.
St. Mary.....	St. Marys College.....	Men.....	Michael Jaglowicz, C. R.
Wilmore.....	Asbury College.....	Coed.....	H. C. Morrison, D. D.
Winchester.....	Kentucky Wesleyan College.....	Coed.....	Will B. Campbell, D. D.
<b>LOUISIANA.</b>			
Baton Rouge.....	Louisiana State University and Agricultural and Mechanical College.....	Coed.....	Thomas D. Boyd, LL. D.
Clinton.....	Silliman Collegiate Institute.....	Women.....	U. B. Currie.
Convent.....	Jefferson College.....	Men.....	P. F. Quinn, S. T. B.
New Orleans.....	H. Sophie Newcomb Memorial College.....	Women.....	Pierce Butler, Ph. D., dean.
Do.....	Loyola University.....	Men.....	E. A. Cummings, S. J.
Do.....	Tulane University of Louisiana.....	Men.....	Albert B. Dinwiddie, LL. D.
Pineville.....	Louisiana College.....	Coed.....	C. Cottingham, LL. D.
Shreveport.....	Centenary College.....	Coed.....	George S. Sexton, D. D.
<b>MAINE.</b>			
Brunswick.....	Bowdoin College.....	Men.....	Kenneth C. M. Sills, LL. D.
Lewiston.....	Bates College.....	Coed.....	Clifton D. Gray, Ph. D.
Orono.....	University of Maine.....	Coed.....	
Waterville.....	Colby College.....	Coed.....	Arthur J. Roberts, LL. D.
<b>MARYLAND.</b>			
Annapolis.....	St. John's College.....	Men.....	Thomas Fell, LL. D.
Do.....	United States Naval Academy.....	Men.....	Rear Adm. Henry B. Wilson, superintendent.
Baltimore.....	Goucher College.....	Women.....	Wm. W. Guth, LL. D.
Do.....	Johns Hopkins University.....	Coed.....	Frank J. Goodnow, LL. D.
Do.....	Loyola College.....	Men.....	Joseph A. McEwen, S. J.
Do.....	Morgan College (colored).....	Coed.....	John O. Spencer, Ph. D.
Do.....	Mount St. Joseph's College.....	Men.....	Brother James, A. M.
Do.....	Notre Dame College of Maryland.....	Women.....	Sister Mary Philemon.
Chestertown.....	Washington College.....	Coed.....	Clarence P. Gould, Ph. D.
College Park.....	University of Maryland.....	Coed.....	Alfred F. Woods, D. Agr.
Ellicott City.....	Rock Hill College.....	Men.....	Brother E. Felix, A. M.
Emmitsburg.....	Mount St. Mary's College.....	Men.....	Bernard J. Bradley, LL. D.
Frederick.....	Hood College.....	Women.....	Joseph H. Apple, LL. D.
Lutherville.....	Maryland College for Women.....	Women.....	Beckman O. Rouse, A. B.
New Windsor.....	Blue Ridge College.....	Coed.....	Ross D. Murphy, A. B.
Westminster.....	Western Maryland College.....	Coed.....	Albert N. Ward, D. D.
<b>MASSACHUSETTS.</b>			
Amherst.....	Amherst College.....	Men.....	Alexander Melklejohn, LL. D.
Do.....	Massachusetts Agricultural College.....	Coed.....	Kenyon L. Butterfield, LL. D.
Boston.....	Boston University.....	Coed.....	Lemuel H. Murfin, LL. D.
Do.....	Emmanuel College.....	Women.....	
Do.....	Northeastern College.....	Men.....	Frank P. Speare, LL. B.
Do.....	Simmons College.....	Women.....	Henry LeFavre, LL. D.
Cambridge.....	Harvard University.....	Men.....	Abbott Lawrence Lowell, LL. D.
Do.....	Massachusetts Institute of Tech- nology.....	Coed.....	Elihu Thompson, Sc. D., acting.
Do.....	Radcliffe College.....	Women.....	Le Baron R. Briggs, LL. D.
Chestnut Hill.....	Boston College.....	Men.....	William Devlin, S. J.
Lowell.....	Lowell Textile School.....	Coed.....	Chas. H. Eames, B. S.
Northampton.....	Smith College.....	Women.....	William A. Neilson, LL. D.
Norton.....	Wheaton College.....	Women.....	Samuel V. Cole, LL. D.
South Hadley.....	Mount Holyoke College.....	Women.....	Mary E. Woolley, LL. D.
Springfield.....	International Young Men's Chris- tian Association College.....	Men.....	Lawrence L. Daggett, D. D.
Tufts College.....	Tufts College.....	Coed.....	John A. Cousens, A. B.
Wellesley.....	Wellesley College.....	Women.....	Ellen F. Pendleton, LL. D.
Williamstown.....	Williams College.....	Men.....	Harry A. Garfield, LL. D.
Worcester.....	Clark University.....	Men.....	Wallace W. Atwood, Ph. D.
Do.....	College of the Holy Cross.....	Men.....	James J. Carlin, S. J.
Do.....	Worcester Polytechnic Institute.....	Men.....	Ira N. Hollis, Sc. D.

## V.—PRESIDENTS OF UNIVERSITIES AND COLLEGES—Continued.

Location.	University or college.	For men, for women, or coedu- cational.	Name of president.
<b>MICHIGAN.</b>			
Adrian.....	Adrian College.....	Coed.....	Harlan L. Feeman, D. D.
Albion.....	Albion College.....	Coed.....	John W. Laird, LL. D.
Alma.....	Alma College.....	Coed.....	Harry Means Crooks, LL. D.
Ann Arbor.....	University of Michigan.....	Coed.....	Marion Le Roy Burton, LL. D.
Berrien Springs.....	Emmanuel Missionary College.....	Coed.....	Frederick Griggs, A. M.
Detroit.....	University of Detroit.....	Men.....	Wm. T. Doran, S. J.
East Lansing.....	Michigan Agricultural College.....	Coed.....	David Friday, A. B.
Hillsdale.....	Hillsdale College.....	Coed.....	Joseph W. Muncie, LL. D.
Holland.....	Hope College.....	Coed.....	Edward D. Mudgett, L. H. D.
Houghton.....	Michigan College of Mines.....	Men.....	Fred W. McNair, Sc. D.
Kalamazoo.....	Kalamazoo College.....	Coed.....	Herbert L. Stetson, LL. D.
Monroe.....	St. Mary's College.....	Women.....	Paul F. Voelker, Ph. D.
Olivet.....	Olivet College.....	Coed.....	
<b>MINNESOTA.</b>			
Collegeville.....	St. John's University.....	Men.....	Peter Engle, Ph. D.
Minneapolis.....	Augsburg Seminary.....	Men.....	George Sverdrup, M. A.
Do.....	University of Minnesota.....	Coed.....	Lotus D. Coffman, Ph. D.
Moorhead.....	Concordia College.....	Coed.....	J. A. Aagaard, B. D.
Northfield.....	Carleton College.....	Coed.....	Donald J. Cowling, LL. D.
Do.....	St. Olaf College.....	Coed.....	Lars W. Boe, D. D.
St. Paul.....	College of St. Catherine.....	Women.....	Sister Antonia, A. M.
Do.....	College of St. Thomas.....	Men.....	Humphrey Moynihan, D. D.
Do.....	Hamline University.....	Coed.....	Samuel F. Kerfoot, D. D.
Do.....	Macalester College.....	Coed.....	Elmer A. Bess, D. D.
St. Peter.....	Gustavus Adolphus College.....	Coed.....	Oscar J. Johnson, D. D.
Winona.....	College of St. Teresa.....	Women.....	Mother M. Leo Tracy.
<b>MISSISSIPPI.</b>			
Agricultural College.....	Mississippi Agricultural and Me- chanical College.....	Coed.....	David C. Hull, M. Sc.
Blue Mountain.....	Blue Mountain College.....	Women.....	W. J. Lowrey, LL. D.
Brookhaven.....	Whitworth Female College.....	Women.....	I. W. Cooper, D. D.
Clinton.....	Mississippi College.....	Men.....	John W. Provins, LL. D.
Columbus.....	Mississippi State College for Wo- men.....	Women.....	J. C. Fant, Ph. D.
Grenada.....	Grenada College.....	Women.....	J. R. Countess, D. D.
Holly Springs.....	Rust College (colored).....	Coed.....	George Evans, D. D.
Jackson.....	Belhaven College.....	Women.....	G. T. Gillespie, D. D.
Do.....	Millsaps College.....	Coed.....	Alexander F. Watkins, D. D.
University.....	University of Mississippi.....	Coed.....	Joseph N. Powers, LL. D., chan- cellor.
<b>MISSOURI.</b>			
Cameron.....	Missouri Wesleyan College.....	Coed.....	Cameron Harmon, D. D.
Canton.....	Culver-Stockton College.....	Coed.....	John H. Wood, D. D.
Columbia.....	University of Missouri.....	Coed.....	John C. Jones, LL. D.
Fayette.....	Central College.....	Coed.....	Paul H. Linn, D. D.
Fulton.....	Westminster College.....	Men.....	E. E. Reed, D. D.
Liberty.....	William Jewell College.....	Men.....	David J. Evans, Th. D.
Marshall.....	Missouri Valley College.....	Coed.....	Wm. H. Black, LL. D.
Parkville.....	Park College.....	Coed.....	Frederick W. Hawley, LL. D.
St. Charles.....	Lindenwood College.....	Women.....	John L. Roemer, D. D.
St. Louis.....	St. Louis University.....	Men.....	William F. Robison, S. J.
Do.....	Washington University.....	Coed.....	Frederic A. Hall, LL. D., chan- cellor.
Springfield.....	Drury College.....	Coed.....	Thomas W. Nadal, LL. D.
Tarkio.....	Tarkio College.....	Coed.....	Joseph A. Thompson, LL. D.
Warrenton.....	Central Wesleyan College.....	Coed.....	Otto E. Kriege, D. D.
Webster Groves.....	Loretto College.....	Women.....	Mother M. Edith, A. B.
<b>MONTANA.</b>			
Bozeman <sup>1</sup> .....	Montana State College of Agricul- ture and Mechanic Arts.....	Coed.....	Alfred Atkinson, Sc. D.
Butte <sup>1</sup> .....	Montana State School of Mines.....	Coed.....	George W. Craven, B. S.
Helena.....	Mt. St. Charles College.....	Men.....	Norbert C. Hoff, A. M.
Missoula <sup>1</sup> .....	Montana State University.....	Coed.....	Charles H. Clapp, Ph. D.

<sup>1</sup> The chief administrative officer of the University of Montana, which includes the State higher institutions, is the chancellor, Edward C. Elliott, Helena, Mont.

## V.—PRESIDENTS OF UNIVERSITIES AND COLLEGES—Continued.

Location.	University or college.	For men, for women, or coedu- cational.	Name of president.
<b>NEBRASKA.</b>			
Bellevue.....	Bellevue College.....	Coed.....	Charles E. Baskerville, D. D.
Bethany.....	Cotner College.....	Coed.....	Andrew D. Harmon, A. M.
Blair.....	Dana College.....	Coed.....	C. X. Hansen, L. H. D.
College View.....	Union College.....	Coed.....	Harry A. Morrison, A. M.
Crete.....	Doane College.....	Coed.....	John N. Bennett, LL. D.
Fremont.....	Midland College.....	Coed.....	Ezra E. Stauffer, D. D.
Grand Island.....	Grand Island College.....	Coed.....	J. W. Wells, A. M.
Hastings.....	Hastings College.....	Coed.....	Calvin H. French, LL. D.
Lincoln.....	University of Nebraska.....	Coed.....	Samuel Avery, LL. D., chancellor.
Omaha.....	Creighton University.....	Men.....	John F. McCormick, S. J.
Do.....	Duchesne College.....	Women.....	
Do.....	University of Omaha.....	Coed.....	Daniel E. Jenkins, D. D.
University Place.....	Nebraska Wesleyan University.....	Coed.....	Isaac B. Schreckengast, S. T. B.
York.....	York College.....	Coed.....	H. U. Roop, Ph. D.
<b>NEVADA.</b>			
Reno.....	State University of Nevada.....	Coed.....	Walter E. Clark, LL. D.
<b>NEW HAMPSHIRE.</b>			
Durham.....	New Hampshire College of Agri- culture and Mechanic Arts.....	Coed.....	Ralph D. Hetzel, LL. D.
Hanover.....	Dartmouth College.....	Men.....	Ernest M. Hopkins, LL. D.
Manchester.....	St. Anselm's College.....	Men.....	Ernest Helmstetter, D. D.
<b>NEW JERSEY.</b>			
Convent Station.....	College of St. Elizabeth.....	Women.....	Sister Marie José Byrne, Ph. D., dean.
Hoboken.....	Stevens Institute of Technology.....	Men.....	Alexander C. Humphreys, LL. D.
Jersey City.....	St. Peter's College.....	Men.....	James F. McDermott, S. J.
Kenilworth.....	Upsala College.....	Coed.....	Carl G. Erickson, B. D.
New Brunswick.....	Rutgers College.....	Men.....	Wm. H. S. Demarest, LL. D.
North Plainfield.....	Mt. St. Mary's College.....	Women.....	
Princeton.....	Princeton University.....	Men.....	John Grier Hibben, LL. D.
South Orange.....	Seton Hall College.....	Men.....	Jas. F. Mooney, D. D.
<b>NEW MEXICO.</b>			
Albuquerque.....	University of New Mexico.....	Coed.....	David S. Hill, LL. D.
Socorro.....	New Mexico School of Mines.....	Coed.....	Edgar H. Wells, B. S.
State College.....	New Mexico College of Agriculture and Mechanic Arts.....	Coed.....	Harry L. Kent, M. S.
<b>NEW YORK.</b>			
Albany.....	New York State Library School.....	Coed.....	James I. Wyer, jr., director.
Alfred.....	Alfred University.....	Coed.....	Boothe C. Davis, LL. D.
Annandale.....	St. Stephen's College.....	Men.....	Bernard I. Bell, S. T. B.
Aurora.....	Wells College.....	Women.....	Kerr D. Macmillan, S. T. D.
Brooklyn.....	Adelphi College.....	Women.....	Frank D. Blodgett, LL. D.
Do.....	Brooklyn College.....	Men.....	Joseph A. Farrell, S. J.
Do.....	Polytechnic Institute of Brooklyn.....	Men.....	Fred. W. Atkinson, Ph. D.
Do.....	St. Francis College.....	Men.....	Brother Jarlath, O. S. F.
Do.....	St. John's College.....	Men.....	John W. Moore, LL. D.
Buffalo.....	Canisius College.....	Men.....	M. J. Ahern, S. J.
Do.....	D'Youville College.....	Women.....	Sister Verecunda.
Do.....	University of Buffalo.....	Coed.....	
Canton.....	St. Lawrence University.....	Coed.....	Richard E. Sykes, D. D.
Clinton.....	Hamilton College.....	Men.....	Frederick C. Ferry, LL. D.
Elmira.....	Elmira College.....	Women.....	Frederick Lent, Ph. D.
Geneva.....	Hobart College.....	Coed.....	Murray Bartlett, D. D.
Hamilton.....	Colgate University.....	Men.....	Melbourne S. Read, Ph. D.
Ithaca.....	Cornell University.....	Coed.....	Livingston Farrand, LL. D.
New Rochelle.....	College of New Rochelle.....	Women.....	Joseph F. Mooney, D. D.
New York.....	Barnard College.....	Women.....	Virginia C. Gildersleeve, Ph. D., dean.
Do.....	College of the City of New York.....	Men.....	Sidney E. Mezes, LL. D.
Do.....	College of the Sacred Heart.....	Women.....	
Do.....	Columbia University.....	Coed.....	Nicholas M. Butler, LL. D.
Do.....	Fordham University.....	Men.....	Edward P. Tivnan, S. J.
Do.....	Hunter College of the City of New York.....	Women.....	George S. Davis, LL. D.
Do.....	Manhattan College.....	Men.....	Brother Jasper, A. M.
Do.....	College of Mount Saint Vincent.....	Women.....	
Do.....	College of the Sacred Heart.....	Women.....	

## V.—PRESIDENTS OF UNIVERSITIES AND COLLEGES—Continued.

Location.	University or college.	For men, for women, or coedu- cational.	Name of president.
<b>NEW YORK—contd.</b>			
New York.....	New York University.....	Coed.....	Elmer Ellsworth Brown, LL. D. chancellor.
Do.....	Teachers College.....	Coed.....	James E. Russell, LL. D., dean.
Niagara University.....	Niagara University.....	Men.....	W. E. Katzenberger, C. M.
Potdam.....	Clarkson College of Technology.....	Men.....	John P. Brooks, Sc. D., director.
Poughkeepsie.....	Vassar College.....	Women.....	Henry N. MacCracken, LL. D.
Rochester.....	University of Rochester.....	Coed.....	Rush Rhees, LL. D.
St. Bonaventure.....	St. Bonaventure's College.....	Men.....	Thomas Plassman, O. F. M.
Saratoga Springs.....	Skidmore School of Arts.....	Women.....	Charles H. Keyes, Ph. D.
Schenectady.....	Union University.....	Men.....	Charles A. Richmond, LL. D.
Syracuse.....	New York State College of For- estry (at Syracuse University).	Men.....	Franklin Moon, M. F., dean.
Do.....	Syracuse University.....	Coed.....	Charles W. Flint, LL. D., cham- cellor.
Troy.....	Rensselaer Polytechnic Institute.....	Men.....	Palmer C. Ricketts, LL. D.
Do.....	Russell Sage College.....	Women.....	Eliza Kellas, Ph. B.
West Point.....	United States Military Academy.....	Men.....	Brig. Gen. Frederick W. Sladen, superintendent.
<b>NORTH CAROLINA.</b>			
Asheville.....	St. Genevieve's College and Acad- emy.....	Women.....	Mother M. L. Lorin, A. M.
Belmont.....	Belmont Abbey College.....	Men.....	Leo Haid, D. D.
Chapel Hill.....	University of North Carolina.....	Coed.....	Harry W. Chase, LL. D.
Charlotte.....	Biddle University (colored).....	Men.....	H. L. McCrorey, D. D.
Do.....	Queens College.....	Women.....	Henry C. Evans, D. D.
Davidson.....	Davidson College.....	Men.....	Wm. J. Martin, LL. D.
Durham.....	Trinity College.....	Coed.....	Wm. P. Few, LL. D.
Elon College.....	Elon College.....	Coed.....	Wm. A. Harper, LL. D.
Greensboro.....	Greensboro College for Women.....	Women.....	S. B. Turrentine, D. D.
Do.....	North Carolina College for Women.....	Women.....	Julius I. Foust, LL. D.
Guilford College.....	Guilford College.....	Coed.....	Raymond Binford, Ph. D.
Hickory.....	Lenoir College.....	Coed.....	John C. Perry, D. D.
Raleigh.....	Meredith College.....	Women.....	Charles E. Brewer, LL. D.
Do.....	Shaw University (colored).....	Coed.....	Joseph L. Peacock, A. M.
Red Springs.....	Flora Macdonald College.....	Women.....	C. G. Vardell, D. D.
Salisbury.....	Livingstone College (colored).....	Coed.....	D. C. Suggs, Ph. D.
Wake Forest.....	Wake Forest College.....	Men.....	Wm. L. Poteat, LL. D.
West Raleigh.....	North Carolina State College of Agriculture and Engineering.....	Men.....	W. C. Riddick, LL. D.
Wilson.....	Atlantic Christian College.....	Coed.....	H. S. Hilley, A. B.
Winston-Salem.....	Salem Academy and College.....	Women.....	Howard E. Rondthaler, D. D.
<b>NORTH DAKOTA.</b>			
Agricultural College.....	North Dakota Agricultural College.....	Coed.....	John L. Coulter, Ph. D.
Fargo.....	Fargo College.....	Coed.....	
Jamestown.....	Jamestown College.....	Coed.....	Barend H. Kroese, D. D.
University.....	University of North Dakota.....	Coed.....	Thomas F. Kane, LL. D.
<b>OHIO.</b>			
Ada.....	Ohio Northern University.....	Coed.....	Albert E. Smith, D. D.
Akron.....	Municipal University of Akron.....	Coed.....	Parke R. Kolbe, Ph. D.
Alliance.....	Mount Union College.....	Coed.....	Wm. H. McMaster, D. D.
Ashland.....	Ashland College.....	Coed.....	Edwin E. Jacobs, Ph. D.
Athens.....	Ohio University.....	Coed.....	Elmer B. Bryan, LL. D.
Berea.....	Baldwin-Wallace College.....	Coed.....	Albert B. Storms, LL. D.
Bluffton.....	Bluffton College.....	Coed.....	Samuel K. Moisman, Ph. D.
Cedarville.....	Cedarville College.....	Coed.....	Wilbert R. McChesney, D. D.
Cincinnati.....	College and Academy of the Sa- cred Heart.....	Women.....	
Do.....	St. Xavier College.....	Men.....	James McCabe, S. J.
Do.....	University of Cincinnati.....	Coed.....	Frederick C. Hicks, Ph. D.
Cleveland.....	Case School of Applied Science.....	Men.....	Charles S. Howe, LL. D.
Do.....	St. Ignatius College.....	Men.....	Thomas J. Smith, S. J.
Do.....	Western Reserve University.....	Coed.....	J. D. Williamson, acting.
Columbus.....	Capital University.....	Coed.....	Otto Mees, D. D.
Do.....	Ohio State University.....	Coed.....	Wm. O. Thompson, LL. D.
Dayton.....	University of Dayton.....	Men.....	Joseph A. Tetzlaff, D. D.
Defiance.....	Defiance College.....	Coed.....	Albert G. Carls, Litt. D.
Delaware.....	Ohio Wesleyan University.....	Coed.....	John W. Hoffman, LL. D.
Findlay.....	Findlay College.....	Coed.....	Wm. H. Guyer, D. D.
Gambier.....	Kenyon College.....	Men.....	Wm. F. Pierce, L. H. D.
Granville.....	Denison University.....	Coed.....	Clark W. Chamberlain, Ph. D.
Hiram.....	Hiram College.....	Coed.....	Miner Lee Bates, LL. D.
Marietta.....	Marietta College.....	Coed.....	Edwards S. Parsons, L. H. D.

## V.—PRESIDENTS OF UNIVERSITIES AND COLLEGES—Continued.

Location.	University or college.	For men, for women, or coedu- cational.	Name of president.
<b>OHIO—continued.</b>			
New Athens.....	Franklin College.....	Coed.....	Will M. Hughes, D. D.
New Concord.....	Muskingum College.....	Coed.....	J. K. Montgomery, D. D.
Oeselin.....	Oberlin College.....	Coed.....	Henry C. King, LL. D.
Oxford.....	Miami University.....	Coed.....	Raymond M. Hughes, M. S.
Do.....	Oxford College for Women.....	Women.....	Eleanor N. Adams, Ph. D.
Do.....	Western College for Women.....	Women.....	W. W. Boyd, Ph. D.
Painesville.....	Lake Erie College.....	Women.....	Vivian Blanche Small, LL. D.
Rio Grande.....	Rio Grande College.....	Coed.....	Simeon H. Bing, A. M.
Springfield.....	Wittenberg College.....	Coed.....	Ross E. Tulloss, D. D.
Tiffin.....	Heidelberg University.....	Coed.....	Charles E. Miller, LL. D.
Toledo.....	St. John's University.....	Men.....	Francis X. Busch, S. J.
Do.....	Toledo University.....	Coed.....	A. Monroe Stowe, Ph. D.
Westerville.....	Otterbein College.....	Coed.....	Walter G. Clippinger, D. D.
Wilberforce.....	Wilberforce University (colored).....	Coed.....	John A. Gregg, D. D.
Wilmington.....	Wilmington College.....	Coed.....	J. Edwin Jay, A. M.
Wooster.....	College of Wooster.....	Coed.....	Charles F. Wishart, D. D.
Yellow Springs.....	Antioch College.....	Coed.....	Arthur E. Morgan.
<b>OKLAHOMA.</b>			
Chickasha.....	Oklahoma College for Women.....	Women.....	G. W. Austin, B. S.
East End.....	Phillips University.....	Coed.....	Isaac N. McCash, LL. D.
Kingfisher.....	Kingfisher College.....	Coed.....	Henry W. Tuttle, D. D.
Norman.....	University of Oklahoma.....	Coed.....	Stratton D. Brooks, LL. D.
Oklahoma City.....	Oklahoma City College.....	Coed.....	Edwin G. Green, A. B.
Shawnee.....	Catholic University of Oklahoma.....	Men.....	D. Blaise, O. S. B.
Do.....	Oklahoma Baptist University.....	Coed.....	Judson A. Tolman.
Stillwater.....	Oklahoma Agricultural and Me- chanical College.....	Coed.....	James B. Eskridge, Ph. D.
Tulsa.....	University of Tulsa.....	Coed.....	James M. Gordon, LL. D.
<b>OREGON.</b>			
Albany.....	Albany College.....	Coed.....	Alfred M. Williams, D. D.
Corvallis.....	Oregon Agricultural College.....	Coed.....	William J. Kerr, Sc. D.
Eugene.....	University of Oregon.....	Coed.....	Prince L. Campbell, LL. D.
Forest Grove.....	Pacific University.....	Coed.....	Robert F. Clark, A. M.
McMinnville.....	Linfield College.....	Coed.....	Leonard W. Riley, D. D.
Newberg.....	Pacific College.....	Coed.....	Levi T. Pennington, A. B.
Portland.....	Reed College.....	Coed.....	Richard F. Scholz, Ph. D.
Do.....	St. Mary's College.....	Women.....	
Salem.....	Willamette University.....	Coed.....	Carl G. Doney, LL. D.
<b>PENNSYLVANIA.</b>			
Allentown.....	Cedar Crest College for Women.....	Women.....	Wm. F. Curtis, Litt. D.
Do.....	Muhlenberg College.....	Men.....	John A. W. Haas, LL. D.
Annvile.....	Lebanon Valley College.....	Coed.....	George D. Gossard, D. D.
Beatty.....	St. Vincent College.....	Men.....	Aurelius Stehle, D. D.
Beaver.....	Beaver College.....	Women.....	James M. Thoburn, Jr., D. D.
Beaver Falls.....	Geneva College.....	Coed.....	A. A. Johnston, B. D.
Bethlehem.....	Lehigh University.....	Men.....	Charles R. Richards, D. Eng.
Do.....	Moravian College.....	Men.....	J. Taylor Hamilton, D. D.
Do.....	Moravian Seminary and College for Women.....	Women.....	
Bryn Mawr.....	Bryn Mawr College.....	Women.....	Marion E. Park, Ph. D.
Carlisle.....	Dickinson College.....	Coed.....	James H. Morgan, LL. D.
Chambersburg.....	Wilson College.....	Women.....	Ethelbert D. Warfield, LL. D.
Chester.....	Pennsylvania Military College.....	Men.....	Chas. E. Hyatt, LL. D.
Collegeville.....	Ursinus College.....	Coed.....	George L. Omwake, Ph. D.
Easton.....	Lafayette College.....	Men.....	John H. MacCracken, LL. D.
Gettysburg.....	Gettysburg College.....	Coed.....	William A. Granville, LL. D.
Greensburg.....	Seton Hill College for Women.....	Women.....	
Greenville.....	Thiel College.....	Coed.....	Henry W. Elson, Litt. D.
Grove City.....	Grove City College.....	Coed.....	Weir C. Ketter, LL. D.
Haverford.....	Haverford College.....	Men.....	William W. Comfort, LL. D.
Huntingdon.....	Juniata College.....	Coed.....	I. Harvey Brumbaugh, Litt. D.
Lancaster.....	Franklin and Marshall College.....	Men.....	Henry H. Apple, LL. D.
Lewisburg.....	Bucknell University.....	Coed.....	Emory W. Hunt, LL. D.
Lincoln University.....	Lincoln University (colored).....	Men.....	John B. Rendall, D. D.
Loretto.....	St. Francis College and Seminary.....	Men.....	John P. M. Doyle, LL. D.
Meadville.....	Allegheny College.....	Coed.....	Fred W. Hixson, LL. D.
Mechanicsburg.....	Irving Female College.....	Women.....	E. E. Campbell, Ph. D.
Myerstown.....	Albright College.....	Coed.....	L. Clarence Hunt, D. D.
New Wilmington.....	Westminster College.....	Coed.....	W. C. Wallace, D. D.

## V.—PRESIDENTS OF UNIVERSITIES AND COLLEGES—Continued.

Location.	University or college.	For men, for women, or coedu- cational.	Name of president.
<b>PENNSYLVANIA—CON.</b>			
Philadelphia.....	Drexel Institute.....	Coed.....	Kenneth G. Matheson, LL. D.
Do.....	Dropie College.....	Coed.....	Cyrus Adler, Ph. D.
Do.....	La Salle College.....	Men.....	Brother Richard, A. M.
Do.....	St. Joseph's College.....	Men.....	P. F. O'Gorman, S. J.
Do.....	Temple University.....	Coed.....	Russell H. Conwell, LL. D.
Do.....	University of Pennsylvania.....	Coed.....	Josiah H. Penniman, LL. D., acting provost.
Pittsburgh.....	Carnegie Institute of Technology.....	Coed.....	Arthur A. Hamerschlag, LL. D.
Do.....	Duquesne University of the Holy Ghost.....	Men.....	Martin A. Hehir, LL. D.
Do.....	Pennsylvania College for Women.....	Women.....	John C. Acheson, LL. D.
Do.....	University of Pittsburgh.....	Coed.....	John G. Bowman, LL. D., chancellor.
Scranton.....	Marywood College.....	Women.....	Charles T. Alkens, D. D.
Selinsgrove.....	Susquehanna University.....	Coed.....	John M. Thomas, LL. D.
State College.....	Pennsylvania State College.....	Coed.....	Frank Aydelotte, A. M.
Swarthmore.....	Swarthmore College.....	Coed.....	Francis A. Driscoll, O. S. A.
Villanova.....	Villanova College.....	Men.....	Simon B. Baker, A. M.
Washington.....	Washington and Jefferson College.....	Men.....	Paul R. Stuart, acting.
Waynesburg.....	Waynesburg College.....	Coed.....	
<b>PHILIPPINE ISLANDS.</b>			
Manila.....	University of the Philippines.....	Coed.....	Guy Potter Benton, LL. D.
<b>PORTO RICO.</b>			
San Juan.....	University of Porto Rico.....	Coed.....	Paul G. Miller, Ph. D.
<b>RHODE ISLAND.</b>			
Kingston.....	Rhode Island State College.....	Coed.....	Howard Edwards, LL. D.
Providence.....	Brown University.....	Coed.....	W. H. P. Faunce, LL. D.
Do.....	Providence College.....	Men.....	Wm. D. Noon.
<b>SOUTH CAROLINA.</b>			
Anderson.....	Anderson College.....	Women.....	John E. White, D. D.
Charleston.....	College of Charleston.....	Men.....	Harrison Randolph, LL. D.
Do.....	The Citadel, the Military College of South Carolina.....	Men.....	Col. O. J. Bond, A. M., super- intendent.
Clemson College.....	Clemson Agricultural College.....	Men.....	Walter M. Riggs, LL. D.
Clinton.....	Presbyterian College of South Car- olina.....	Coed.....	Davidson McD. Douglas, D. D.
College Place.....	Columbia College.....	Women.....	G. T. Pugh, Ph. D.
Columbia.....	Benedict College (colored).....	Coed.....	Clarence B. Antisdel, B. D.
Do.....	Chicora College for Women.....	Women.....	S. C. Byrd, D. D.
Do.....	University of South Carolina.....	Coed.....	Wm. S. Currell, LL. D.
Due West.....	Ersikine College.....	Coed.....	James S. Moffatt, D. D.
Do.....	Woman's College of Due West.....	Women.....	Richard L. Robinson, D. D.
Greenville.....	Furman University.....	Men.....	W. J. McGlothlin, D. D.
Do.....	Greenville Woman's College.....	Women.....	David M. Ramsey, D. D.
Greenwood.....	Lander College.....	Women.....	John O. Willson, D. D.
Hartsville.....	Coker College for Women.....	Women.....	E. W. Sikes, Ph. D.
Newberry.....	Newberry College.....	Coed.....	S. J. Derrick, LL. D.
Rock Hill.....	Winthrop College.....	Women.....	David B. Johnson, LL. D.
Spartanburg.....	Converse College.....	Women.....	Robert P. Fell, Litt. D.
Do.....	Wofford College.....	Men.....	Henry N. Snyder, LL. D.
<b>SOUTH DAKOTA.</b>			
Brookings.....	South Dakota State College of Ag- riculture and Mechanic Arts.....	Coed.....	Willis E. Johnson, LL. D.
Huron.....	Huron College.....	Coed.....	
Mitchell.....	Dakota Wesleyan University.....	Coed.....	W. D. Schermerhorn, S. T. B.
Rapid City.....	State School of Mines.....	Coed.....	Cleophas C. O'Hara, Ph. D.
Sioux Falls.....	Sioux Falls College.....	Coed.....	V. C. Coulter, A. M.
Vermilion.....	University of South Dakota.....	Coed.....	Robert L. Slagle, Ph. D.
Yankton.....	Yankton College.....	Coed.....	Henry K. Warren, LL. D.
<b>TENNESSEE.</b>			
Bristol.....	King College.....	Men.....	Tilden Scherer, D. D.
Chattanooga.....	University of Chattanooga.....	Coed.....	Arlo A. Brown, D. D.
Clarksville.....	Southwestern Presbyterian Uni- versity.....	Men.....	Chas. E. Diehl, D. D.

## V.—PRESIDENTS OF UNIVERSITIES AND COLLEGES—Continued.

Location.	University or college.	For men, for women, or coedu- cational.	Name of president.
<b>TENNESSEE—contd.</b>			
Greenville.....	Tusculum College.....	Coed.....	Chas. O. Gray, D. D.
Harrogate.....	Lincoln Memorial University.....	Coed.....	George A. Hubbell, Ph. D.
Jackson.....	Union University.....	Coed.....	Henry E. Watters, D. D.
Jefferson City.....	Carson and Newman College.....	Coed.....	Oscar E. Sams, LL. D.
Knoxville.....	Knoxville College (colored).....	Coed.....	J. K. Giffin, D. D.
Do.....	University of Tennessee.....	Coed.....	Harcourt A. Morgan, LL. D.
Lebanon.....	Cumberland University.....	Coed.....	A. B. Buchanan, D. D., acting.
McKenzie.....	Bethel College.....	Coed.....	N. J. Finney, A. M.
Maryville.....	Maryville College.....	Coed.....	Samuel T. Wilson, D. D.
Milligan.....	Milligan College.....	Coed.....	H. J. Derthick, A. M.
Murfreesboro.....	Tennessee College.....	Women.....	Geo. J. Burnett, A. M.
Nashville.....	Burford College.....	Women.....	Mrs. E. G. Buford.
Do.....	Fisk University (colored).....	Coed.....	Fayette A. McKenzie, LL. D.
Do.....	Vanderbilt University.....	Coed.....	James H. Kirkland, LL. D., chancellor.
Sewanee.....	University of the South.....	Men.....	Albion W. Knight, D. D., vice chancellor.
Spencer.....	Burritt College.....	Coed.....	H. E. Scott, A. M.
Washington College.....	Washington College.....	Coed.....	James T. Cooter, D. D.
<b>TEXAS.</b>			
Abilene.....	Abilene Christian College.....	Coed.....	Jesse P. Sewell.
Do.....	Simmons College.....	Coed.....	Jefferson D. Sandefer, LL. D.
Austin.....	University of Texas.....	Coed.....	Robert E. Vinson, LL. D.
Belton.....	Baylor Female College.....	Women.....	John C. Hardy, LL. D.
Brownwood.....	Daniel Baker College.....	Coed.....	S. E. Chandler, D. D.
Do.....	Howard Payne College.....	Coed.....	L. J. Mims, A. M.
College Station.....	Agricultural and Mechanical Col- lege of Texas.....	Men.....	Wm. B. Bizzell, LL. D.
Dallas.....	University of Dallas.....	Men.....	Marshall F. Winne, Ph. D.
Do.....	Southern Methodist University.....	Coed.....	Hiram A. Boaz, D. D.
Denton.....	College of Industrial Arts.....	Women.....	Francis M. Bralley, LL. D.
Fort Worth.....	Texas Christian University.....	Coed.....	E. M. Waits, LL. D.
Do.....	Texas Woman's College.....	Women.....	H. E. Stout.
Georgetown.....	Southwestern University.....	Coed.....	Edgar O. Lovett, LL. D.
Houston.....	Rice Institute.....	Coed.....	C. H. Maxson, B. S.
Marshall.....	Bishop College (colored).....	Coed.....	French W. Thompson, D. D.
Milford.....	Texas Presbyterian College.....	Women.....	H. A. Constantineau, D. D.
San Antonio.....	Our Lady of the Lake College.....	Women.....	James P. Canning, A. M.
Do.....	St. Louis College.....	Men.....	Thomas S. Clyce, LL. D.
Sherman.....	Austin College.....	Men.....	Samuel P. Brooks, LL. D.
Waco.....	Baylor University.....	Coed.....	Samuel Lee Hornbeak, LL. D.
Waxahachie.....	Trinity University.....	Coed.....	
<b>UTAH.</b>			
Logan.....	Agricultural College of Utah.....	Coed.....	Elmer G. Peterson, Ph. D.
Salt Lake City.....	University of Utah.....	Coed.....	George Thomas, Ph. D.
<b>VERMONT.</b>			
Burlington.....	University of Vermont and State Agricultural College.....	Coed.....	Guy W. Bailey, LL. D.
Middlebury.....	Middlebury College.....	Coed.....	Paul D. Moody, LL. D.
Northfield.....	Norwich University.....	Men.....	Charles A. Plumley, A. M.
Winooski.....	St. Michael's College.....	Men.....	William Jeanmarie, S. S. E.
<b>VIRGINIA.</b>			
Ashland.....	Randolph-Macon College.....	Men.....	Robert E. Blackwell, LL. D.
Blacksburg.....	Virginia Agricultural and Mechan- ical College and Polytechnic In- stitute.....	Men.....	Julian A. Burruss, A. M.
Bridgewater.....	Bridgewater College.....	Coed.....	Paul H. Bowman, D. D.
Charlottesville.....	University of Virginia.....	Coed.....	Edwin A. Alderman, LL. D.
Emory.....	Emory and Henry College.....	Coed.....	J. Stewart French.
Hampden-Sidney.....	Hampden-Sidney College.....	Men.....	Joseph D. Eggleston, LL. D.
Hollins.....	Hollins College.....	Women.....	Matty L. Cooke, Litt. D.
Lexington.....	Virginia Military Institute.....	Men.....	Edward W. Nichols, supt.
Do.....	Washington and Lee University.....	Men.....	Henry Louis Smith, LL. D.
Lynchburg.....	Randolph-Macon Woman's College.....	Women.....	Dice R. Anderson, Ph. D.
Do.....	Lynchburg College.....	Coed.....	J. T. T. Hundley, A. B.
Do.....	Virginia Theological Seminary and College (colored).....	Coed.....	Robert C. Woods, D. D.

## V.—PRESIDENTS OF UNIVERSITIES AND COLLEGES—Continued.

Location.	University or college.	For men, for women, or coedu- cational.	Name of president.
<b>VIRGINIA—continued.</b>			
Manassas.....	Eastern College.....	Coed.....	R. F. Hollday, A. M.
Richmond.....	University of Richmond.....	Coed.....	F. W. Boatwright, LL. D.
Do.....	Virginia Union University (col- ored).....	Men.....	William J. Clark, B. D.
Salem.....	Roanoke College.....	Men.....	Charles J. Smith, D. D.
Do.....	Elizabeth College.....	Women.....	Paul Sieg, A. M.
Sweet Briar.....	Sweet Briar College.....	Women.....	Emilie W. McVee, Litt. D.
Williamsburg.....	College of William and Mary.....	Coed.....	J. A. C. Chandler, LL. D.
<b>WASHINGTON.</b>			
Pullman.....	State College of Washington.....	Coed.....	Ernest O. Holland, Ph. D.
Seattle.....	University of Washington.....	Coed.....	Henry Suzzallo, LL. D.
Spokane.....	Gonzaga University.....	Men.....	John A. McHugh, S. J.
Do.....	Whitworth College.....	Coed.....	Willard H. Robinson, Ph. D.
Tacoma.....	College of Puget Sound.....	Coed.....	Edward H. Todd, D. D.
Walla Walla.....	Whitman College.....	Coed.....	Stephen B. L. Penrose, D. D.
<b>WEST VIRGINIA.</b>			
Bethany.....	Bethany College.....	Coed.....	Cloyd Goodnight, A. M.
Buckhannon.....	West Virginia Wesleyan College.....	Coed.....	Wallace B. Fleming, D. D.
Elkins.....	Davis and Elkins College.....	Coed.....	James E. Allen, A. B.
Morgantown.....	West Virginia University.....	Coed.....	Frank B. Trotter, LL. D.
Salem.....	Salem College.....	Coed.....	S. Orestes Bond, A. M.
<b>WISCONSIN.</b>			
Appleton.....	Lawrence College.....	Coed.....	Samuel Plantz, LL. D.
Ashland.....	Northland College.....	Coed.....	Joseph D. Brownell, D. D.
Beloit.....	Beloit College.....	Coed.....	Melvin A. Brannon, LL. D.
Madison.....	University of Wisconsin.....	Coed.....	Edward A. Birge, LL. D.
Milton.....	Milton College.....	Coed.....	Alfred E. Whitford, A. M., acting.
Milwaukee.....	Marquette University.....	Men.....	Herbert C. Noonan, S. J.
Do.....	Milwaukee-Downer College.....	Women.....	Lucia R. Briggs.
Plymouth.....	Mission House.....	Coed.....	
Prairie du Chien.....	Campton College.....	Men.....	Albert C. Fox, S. J.
Do.....	St. Mary's College.....	Women.....	Mother Mary Seraphia.
Ripon.....	Ripon College.....	Coed.....	Silas Evans, LL. D.
Watertown.....	Northwestern College.....	Men.....	E. E. Kowalke, A. B.
Waukesha.....	Carroll College.....	Coed.....	Wm. A. Ganfield, LL. D.
<b>WYOMING.</b>			
Laramie.....	University of Wyoming.....	Coed.....	Aven Nelson, Ph. D.

## VI.—PRESIDENTS OF JUNIOR COLLEGES.

Location.	Name of institution.	President.
Montevallo, Ala.....	Alabama Technical Institute and College for Women.....	Thomas W. Palmer, LL. D.
Eureka Springs, Ark.....	Crescent College.....	Richard R. Thompson, A. M.
Bakersfield, Calif.....	Junior College <sup>1</sup> .....	Paul Vandereike, dean.
Eureka, Calif.....	do.....	George C. Jensen, M. S.
Fullerton, Calif.....	do.....	Lewis E. Plummer, B. S.
Hollister, Calif.....	do.....	
Ontario, Calif.....	do.....	Merton E. Hill, A. M.
Pomona, Calif.....	do.....	H. P. Reynolds, B. S.
Riverside, Calif.....	do.....	A. G. Paul, A. B.
Sacramento, Calif.....	do.....	Belle Cooledge, B. S.
Santa Ana, Calif.....	do.....	E. M. Nealley.
Santa Maria, Calif.....	do.....	Arnold A. Bowhay, jr., A. M.
Turlock, Calif.....	do.....	J. Perry Ratzell, A. M.
Cuthbert, Ga.....	Andrew College.....	F. G. Branch, B. S.
Young Harris, Ga.....	Young L. G. Harris College.....	John L. Hall, A. B.
Pocatello, Idaho.....	Idaho Technical Institute.....	Charles R. Frazier, B. L.
Carlinville, Ill.....	Blackburn College.....	Wm. M. Hudson, D. D.
Chicago, Ill.....	Crane Junior College.....	Wm. J. Bartholf.

<sup>1</sup> Part of public-school system.



## VI.—PRESIDENTS OF JUNIOR COLLEGES—Continued.

Location.	Name of institution.	President.
Godfrey, Ill.	Monticello Seminary	Harriet R. Congdon, A. B.
Joliet, Ill.	Junior College <sup>1</sup>	L. W. Smith, Ph. D.
Mount Carroll, Ill.	Frances Shimer School	Wm. P. McKee, A. M.
Vincennes, Ind.	Vincennes University	W. Halman, & M.
Lamont, Iowa.	Graceland College	George N. Briggs, A. B.
Osage, Iowa.	Cedar Valley Junior College	Victor Y. Craig, A. B.
Danville, Ky.	Kentucky College for Women	M. M. Allen, D. D.
Hopkinsville, Ky.	Bethel Woman's College	John W. Gaines, LL. D.
Lexington, Ky.	Hamilton College for Women	Alice T. Karr, dean.
Do.	Sayre College	Mrs. Maude S. Barnett.
Russellville, Ky.	Bethel College	George F. Dasher, LL. D.
Do.	Logan Female College	George H. Crowell, Ph. D.
Williamsburg, Ky.	Cumberland College	E. W. Elsey, D. D.
Mansfield, La.	Mansfield Female College	R. E. Bobbitt, B. S.
Baltimore, Md.	Mount Vernon College	Wyllis Rede, D. D.
Detroit, Mich.	Junior College <sup>1</sup>	David MacKenzie, A. M.
Grand Rapids, Mich.	do <sup>1</sup>	Arthur Andrews, M. A.
Highland Park, Mich.	do <sup>1</sup>	William Prakkien, A. B.
Hibbing, Minn.	do <sup>1</sup>	G. W. Willett, A. M.
Rochester, Minn.	do <sup>1</sup>	G. H. Vande Bogart, A. M.
St. Paul, Minn.	Concordia College	Theo. Buenger.
Holly Springs, Miss.	Mississippi Synodical College	E. F. Cooper, Ph. D.
Columbia, Mo.	Christian College	Mrs. L. W. St. Claire-Moss, A. B.
Do.	Stephens College	James M. Wood, A. M.
Fayette, Mo.	Howard Payne College	W. L. Halberstadt, A. B.
Fredericktown, Mo.	Marvin College	Burt W. Loomis, A. M.
Fulton, Mo.	Synodical College for Girls	John James, A. B.
Do.	William Woods College	Edward M. Bainter, LL. D.
Kansas City, Mo.	Junior College of Kansas City	Sister Irene O'Hara, A. B.
Do.	St. Teresa Junior College	James W. Crouch, D. D.
La Grange, Mo.	La Grange College	Z. M. Williams, D. D.
Lexington, Mo.	Central College for Women	Samuel J. Vaughn, A. B.
Mexico, Mo.	Hardin College	J. C. Harmon, A. B.
Nevada, Mo.	Cottey College	A. S. Wood.
St. Joseph, Mo.	Junior College <sup>1</sup>	Mary K. Morgan.
St. Louis, Mo.	The Principia	James B. Craven.
Lenoir, N. C.	Davenport College	L. S. Massey, B. D.
Louisburg, N. C.	Louisburg College	Warren W. Way, D. D.
Raleigh, N. C.	St. Mary's School	Mary O. Graham.
Do.	Peace Institute	A. M. Martin, A. M.
Weaverville, N. C.	Weaver College	H. S. Shangle.
Milton, Oreg.	Columbia College	Burton J. Vincent, A. B.
Westington Springs, S. Dak.	Westington Springs Junior College	J. E. Lowry, A. M.
Madisonville, Tenn.	Hwassee College	Geo. A. Morgan, D. D.
Pulaski, Tenn.	Martin College	M. L. Williams, A. M.
Arlington, Tex.	Grubbs Vocational College	G. S. Slover, A. M.
Clarendon, Tex.	Clarendon College	J. L. Ward, A. M.
Dallas, Tex.	St. Mary's College	W. I. Thames, A. B.
Decatur, Tex.	Decatur Baptist College	G. F. Winfield, A. M.
Greenville, Tex.	Burleson College	R. G. Borer, A. M.
Do.	Wesley College	Marion E. Hudson.
Jacksonville, Tex.	Alexander College	J. Hall Bowman.
Marshall, Tex.	College of Marshall	
Meridian, Tex.	Meridian College	
Midland, Tex.	Midland College	
Rusk, Tex.	Rusk Junior College	
San Antonio, Tex.	Westmoorland College	M. W. Robinson, A. M.
Sherman, Tex.	Karr-Burdette College	Felix R. Hill, jr., B. D.
Do.	Kidd-Key College	Cephas Shelbourne.
Stephanova, Tex.	John Tarleton Agricultural College	Edwin Kidd.
Tehuscan, Tex.	Westminster College	J. T. Davis.
Terrell, Tex.	Texas Military College	W. B. Sanders, Ph. D.
Thorpe Springs, Tex.	Thorpe Springs Christian College	Louis C. Perry, Ph. D.
Abingdon, Va.	Stonewall Jackson College	A. B. Holton, A. M.
Blackstone, Va.	Blackstone College for Girls	Fred W. Alexander, LL. D.
Bristol, Va.	Bullins College	W. Asbury Christian, D. D.
Do.	Virginia Intermont College	W. E. Martin, Ph. D.
Daleville, Va.	Daleville College	H. G. Noffsinger, A. M.
Danville, Va.	Averette College	T. S. Mohrman, D. D.
Marion, Va.	Marion College	J. F. Craft.
Petersburg, Va.	Southern College	C. Brown Cox, A. M.
Roanoke, Va.	Virginia College	Arthur K. Davis, A. M.
Staunton, Va.	Mary Baldwin College	Mattie P. Harris.
Everett, Wash.	Junior College <sup>1</sup>	Marianna P. Higgins.
		W. J. Marquis.

<sup>1</sup> Part of public-school system.

## VII.—DEANS OR DIRECTORS OF UNIVERSITY EXTENSION IN CERTAIN UNIVERSITIES AND COLLEGES.\*

(NOTE: Directors of university extension in State departments of education are included in Section II, Principal State School Officers.)

Location.	Name of institution.	Dean or director.
University, Ala.	University of Alabama.	James S. Thomas.
Tucson, Ariz.	University of Arizona.	Frank C. Lockwood.
Fayetteville, Ark.	University of Arkansas.	A. M. Harding.
Berkeley, Calif.	University of California.	Leon J. Richardson.
Boulder, Colo.	University of Colorado.	Elmore Peterson.
New Haven, Conn.	Yale University.	Frank E. Spaulding.
Gainesville, Fla.	University of Florida.	B. C. Riley.
Moscow, Idaho.	University of Idaho.	L. W. Fluharty.
Chicago, Ill.	University of Chicago.	L. F. Mallory.
Peoria, Ill.	Bradley Polytechnic Institute.	Albert F. Siepert.
Bloomington, Ind.	Indiana University.	R. E. Cavanagh.
Indianapolis, Ind.	Butler College.	James W. Putnam.
Ames, Iowa.	Iowa State College.	D. C. Faber.
Fayette, Iowa.	Upper Iowa University.	J. P. Van Horn.
Iowa City, Iowa.	State University of Iowa.	O. E. Kingman.
Lawrence, Kans.	University of Kansas.	H. G. Ingham.
Lexington, Ky.	University of Kentucky.	Wellington Patrick.
Baltimore, Md.	Johns Hopkins University.	Edward F. Buchner.
Westminster, Md.	Western Maryland College.	A. M. Isaacs.
Boston, Mass.	Boston University.	Alexander H. Rice.
Cambridge, Mass.	Harvard University.	James Hardy Ropes.
Ann Arbor, Mich.	University of Michigan.	W. D. Henderson.
Minneapolis, Minn.	University of Minnesota.	Richard R. Price.
Columbia, Mo.	University of Missouri.	C. H. Williams.
St. Louis, Mo.	Washington University.	F. W. Shipley.
Lincoln, Nebr.	University of Nebraska.	A. A. Reed.
Albuquerque, N. Mex.	University of New Mexico.	David S. Hill.
Elmira, N. Y.	Elmira College.	Frederick Lent.
New York, N. Y.	Columbia University.	James C. Egbert.
Do.	Hunter College of the City of New York.	A. Busse.
Rochester, N. Y.	University of Rochester.	L. A. Pechstein.
Chapel Hill, N. C.	University of North Carolina.	Louis B. Wilson.
University, N. Dak.	University of North Dakota.	A. H. Yoder.
Akron, Ohio.	Municipal University of Akron.	H. E. Simmons.
Cincinnati, Ohio.	University of Cincinnati.	G. A. Tauvey.
East End, Okla.	Phillips University.	A. F. Reiter.
Norman, Okla.	University of Oklahoma.	J. W. Scroggs.
Eugene, Oreg.	University of Oregon.	Earl Kilpatrick.
Allentown, Pa.	Muhlenberg College.	Isaac M. Wright.
Philadelphia, Pa.	Temple University.	J. H. Penselman, provost.
Do.	University of Pennsylvania.	J. H. Kelly.
Pittsburgh, Pa.	University of Pittsburgh.	Perry Hughes.
Bethlehem, Pa.	Lehigh University.	R. L. Seakett.
State College, Pa.	Pennsylvania State College.	
Providence, R. I.	Brown University.	
Do.	Rhode Island College.	John L. Alger.
Columbia, S. C.	University of South Carolina.	Ed Smith.
Vermilion, S. Dak.	University of South Dakota.	J. C. Tjaden.
Knoxville, Tenn.	University of Tennessee.	C. E. Ferris.
Nashville, Tenn.	George Peabody College.	A. I. Roehm.
Austin, Tex.	University of Texas.	T. H. Shelby.
Georgetown, Tex.	Southwestern University.	W. D. Wentz.
Salt Lake City, Utah.	University of Utah.	F. W. Reynolds.
Charlottesville, Va.	University of Virginia.	Charles C. Maphis.
Richmond, Va.	Virginia Union University.	W. J. Clark.
Pullman, Wash.	State College of Washington.	F. F. Nalder.
Seattle, Wash.	University of Washington.	Edwin A. Start.
Morgantown, W. Va.	West Virginia University.	L. B. Hill.
Madison, Wis.	University of Wisconsin.	Louis E. Reber.
Laramie, Wyo.	University of Wyoming.	H. C. Dale.

\* Owing to the late date on which the compilation was begun, this list is not a complete one.

## VIII.—PRESIDENTS OR DEANS OF SCHOOLS OF THEOLOGY.

Location.	Name of institution.	President or dean.
St. Bernard, Ala.....	St. Bernard College and Abbey (R. C.)..	Bernard Manges, D. D.
Selma, Ala.....	Payne University Theological Depart- ment (A. M. E.).	Robert Ernest Brooks, D. D.
Talladega, Ala.....	Talladega College Theological Seminary (Cong.) (colored).	James P. O'Brien, D. D.
Tuscaloosa, Ala.....	Stillman Institute (colored) (Presb.)....	Paul H. Moore.
Little Rock, Ark.....	Arkansas Baptist College School of The- ology.	Joseph A. Booker, D. D.
Do.....	St. John's Seminary (R. C.).....	Winand H. Arets, S. T. D.
North Little Rock, Ark.....	Jackson Theological Seminary of Shorter College (A. M. E.).	H. G. Montgomery.
Berkeley, Calif.....	Berkeley Baptist Divinity School.....	Clairborne M. Hill, D. D.
Do.....	Pacific School of Religion (undenomina- tional).	William Frederick Bade, Ph. D.
Do.....	Pacific Unitarian School for the Ministry.	Earl Morse Wilbur, D. D.
Los Angeles, Calif.....	University of Southern California, Mac- alay College of Theology (M. E.).	John F. Flaher, D. D.
Menlo Park, Calif.....	St. Patrick's Seminary (R. C.).....	Henry A. Ayrinhac, S. S.
San Anselmo, Calif.....	San Francisco Theological Seminary (Presb.).	Warren Hall Landon, D. D.
San Francisco, Calif.....	California Bible College (Disc.).....	Dennison A. Russell, D. D.
Do.....	Church Divinity School of the Pacific (P. E.).	William F. Nichols, D. D.
Denver, Colo.....	Iliff School of Theology (M. E.).....	Edwin W. Dunlavy, D. D.
Hartford, Conn.....	Hartford Seminary Foundation (Inter- denominational).	M. W. Jacobus, D. D.
Middletown, Conn.....	Berkeley Divinity School (P. E.).....	William Palmer Ladd, D. D.
New Haven, Conn.....	Yale University Divinity School (non- sectarian).	Charles Reynolds Brown, D. D.
Washington, D. C.....	Catholic University of America, School of Sacred Sciences (R. C.).	John A. Ryan, S. T. D.
Do.....	Howard University Theological Depart- ment (colored) (interdenominational).	Davie Butler Pratt, D. D.
Washington, D. C. (Takoma Park).....	Washington Missionary College, School of Theology (Seventh Day Advent.).	Henry S. Premier, A. M.
St. Leo, Fla.....	St. Leo College and Abbey (R. C.).....	Charles H. Mohr, D. D.
Atlanta, Ga.....	Atlanta Theological Seminary (Cong.)....	Frank R. Shipman, B. D.
Do.....	Emory University, Candler School of Theology (M. E. Church South).	Franklin N. Parker, D. D.
Do.....	Gammon Theological Seminary (col- ored) (M. E.).	Philip M. Watters, D. D.
Do.....	Morehouse College, Divinity School (col- ored) (Bapt.).	C. C. Smith, D. D.
Do.....	Morris Brown University, Turner Theo- logical Seminary (A. M. E.).	J. A. Lindsey, D. D.
Aurora, Ill.....	Aurora College Biblical Department (Advent Chris.).	Orrin R. Jenks, D. D.
Chicago, Ill.....	Bethany Bible School.....	Albert C. Wileand, D. D.
Do.....	Chicago Theological Seminary (Cong.)....	Osora Stearns Davis, D. D.
Chicago (Maywood), Ill.....	Evangelical Lutheran Theological Semi- nary.	J. E. Whitteke, D. D.
Chicago, Ill.....	McCormick Theological Seminary (Presb.).	Andrew C. Zenos, D. D.
Do.....	University of Chicago Divinity School (Bapt.).	Shaller Mathews, D. D.
Do.....	Western Theological Seminary (P. E.)..	William C. De Witt, S. T. D.
Evanston, Ill.....	Garrett Biblical Institute (M. E.).	Charles M. Stuart, D. D.
Do.....	Norwegian-Danish Theological Semi- nary (M. E.).	Nels E. Simonsen, D. D.
Do.....	Swedish Theological Seminary (M. E.).	F. A. Lundberg, D. D.
Greenville, Ill.....	Greenville College, Department of The- ology (Free Meth.).	John La Due, A. M.
Naperville, Ill.....	Evangelical Theological Seminary (Ev. Asso.).	G. B. Kimmel, D. D.
Rock Island, Ill.....	Augustana College and Theological Seminary (Ev. Luth.).	C. E. Lindberg, D. D.
Springfield, Ill.....	Concordia Theological Seminary (Ev. Luth.).	Louis Wessel.
Merom, Ind.....	Union Christian College Biblical Depart- ment (Chris.).	Charles B. Hershey, D. D.
St. Meinrad, Ind.....	St. Meinrad Seminary (R. C.).....	Albert Kleber, O. S. B.
Upland, Ind.....	Reade Theological Seminary, Taylor University (M. E.).	Newton Wray, D. D.
Des Moines, Iowa.....	Drake University College of the Bible (Chris.).	Jesse C. Caldwell, B. D.
Do.....	Grand View College Theological School (Luth.).	Carl P. Højbjerg.
Dubuque, Iowa.....	Theological Seminary at Dubuque Uni- versity (Presb.).	W. S. Rustor, D. D.
Do.....	Wartburg Theological Seminary (Ev. Luth.).	M. Fritschel, D. D.
Atchison, Kans.....	St. Benedict's College, School of The- ology (R. C.).	Martin Veth, S. T. L.

## VIII.—PRESIDENTS OR DEANS OF SCHOOLS OF THEOLOGY—Continued.

Location.	Name of Institution.	President or dean.
Kansas City, Kans.....	Kansas City Baptist Theological Seminary.	Philip W. Crannell, D. D.
Do.....	Kansas City University College of Theology (Meth. Prot.).	Herbert T. Stephens, D. D.
McPherson, Kans.....	McPherson College Bible School (Breth.)	J. W. Deeter, B. D.
Kingswood, Ky.....	Department of Theology, Kingswood College.	W. B. Dunkum, D. D.
Lexington, Ky.....	College of the Bible affiliated with Transylvania College (Disc.).	A. W. Fortune, Ph. D.
Louisville, Ky.....	Presbyterian Theological Seminary of Kentucky.	Charles R. Hemphill, D. D.
Do.....	Southern Baptist Theological Seminary.	Edgar Y. Mullins, D. D.
Do.....	Simmons University Theological Department (colored) (Bapt.).	M. B. Lanier, B. D.
Bangor, Me.....	Bangor Theological Seminary (Cong.)...	Warren J. Moulton, D. D.
Baltimore, Md.....	St. Mary's Seminary (R. C.)	Edward R. Dyer, D. D.
Emmitsburg, Md.....	Mount St. Mary College, Ecclesiastical Seminary (R. C.)	B. J. Bradley, LL. D.
Westminister, Md.....	Westminister Theological Seminary (Meth. Prot.)	Hugh Latimer Elderdice, D. D.
Woodstock, Md.....	Woodstock College (R. C.)	William J. Duane, S. J.
Boston, Mass.....	Boston University School of Theology (M. E.)	James A. Bebee, D. D.
Boston (Brighton), Mass.....	St. John's Boston Ecclesiastical Seminary (R. C.)	John B. Peterson, Ph. D.
Cambridge, Mass.....	Andover Theological Seminary (Cong.)	Henry B. Washburn, D. D.
Do.....	Episcopal Theological School.....	William Wallace Fenn, D. D.
Do.....	Harvard University Divinity School (Nonsect.)	William L. Worcester, A. B.
Do.....	New-Church Theological School (Ch. of N. Jer.)	William L. Worcester, A. B.
Newton Centre, Mass.....	Newton Theological Institution (Bapt.)	George Edwin Horr, D. D.
Tufts College, Mass.....	Tufts College, Crane Theological School (Univ.)	Lee S. McClester, S. T. D.
Berrien Springs, Mich.....	Emmanuel Missionary College Theological School.	T. M. French, B. Th.
Grand Rapids, Mich.....	Theological School and Calvin College (Chris. Ref. Ch.)	J. J. Hiemenga, B. D.
Hancock, Mich.....	Suomi College and Theological Seminary (Finnish Ev. Luth.)	John Wargelin, A. B.
Holland, Mich.....	Western Theological Seminary (Ref. Ch. in Amer.)	James F. Zwemer, D. D.
Owosso, Mich.....	Bible Holiness Seminary School of Theology.	C. G. Taylor.
Collegeville, Minn.....	St. John's University and Abbey (R.C.)	Alphonse Sansen, A. M.
Faribault, Minn.....	Seabury Divinity School (P. E.)	Frank A. McElwain, D. D.
Minneapolis, Minn.....	Augsburg Seminary (Ev. Luth.)	George Sverdrup, M. A.
St. Paul, Minn.....	Bethel Theological Seminary (Bapt.)	Carl G. Lagergren, D. D.
Do.....	Phalen Luther Seminary	H. Ernst, D. D.
Do.....	St. Paul Theological Seminary (R. C.)	Francis J. Schaefer, D. D.
St. Paul (St. Anthony Park), Minn.....	Luther Theological Seminary.....	Marcus Olaus Bockman, D. D.
Columbia, Mo.....	Bible College of Missouri.....	Granville D. Edwards, A. M.
Canton, Mo.....	School of Religion in Culver-Stockton College.	Henry B. Robison, Ph. D.
St. Louis, Mo.....	Concordia Theological Seminary (Ev. Luth.)	John H. C. Fritz.
Do.....	Eden Theological Seminary of the Evangelical Church of North America.	S. D. Press.
Do.....	St. Louis University School of Divinity (R. C.)	Francis J. O'Boyle, S. J.
St. Louis, Mo. (University City).	Xenia Theological Seminary (U. Presb.)	Joseph Kyle, D. D.
Warrenton, Mo.....	Central Wesleyan College German Theological Seminary (M. E.)	E. S. Havighurst, D. D.
Webster Groves, Mo.....	Kenrick Theological Seminary (R. C.)	M. S. Ryan, C. M., D. D.
Blair, Nebr.....	Dana College, Trinity Seminary (Ev. Luth.)	L. A. Laursen.
Fremont, Nebr.....	Western Theological Seminary of Ev. Luth. Church, Midland College.	Holmes Dysinger, D. D.
Omaha, Nebr.....	Presbyterian Theological Seminary....	James M. Wilson, D. D.
Bloomfield, N. J.....	Bloomfield Theological Seminary (Presb.)	Harry E. Richards, M. D.
Madison, N. J.....	Drew Theological Seminary (M. E.)	Era Squier Tipple, D. D.
New Brunswick, N. J.....	Theological Seminary of the Reformed Church in America.	J. Preston Searle, D. D.
Princeton, N. J.....	Princeton Theological Seminary (Presb.)	J. Ross Stevenson, D. D.
South Orange, N. J.....	Immaculate Conception Theological Seminary (R. C.)	James F. Mooney, D. D.
Alfred, N. Y.....	School of Religion at Alfred University (7th Day Bapt.)	Arthur E. Main, D. D.
Auburn, N. Y.....	Auburn Theological Seminary (Presb.)	George B. Stewart, D. D.
Brooklyn, N. Y.....	St. John's College Diocesan Theological Seminary (R. C.)	Charles J. Gorman, C. M.

## VIII.—PRESIDENTS OR DEANS OF SCHOOLS OF THEOLOGY—Continued.

Location.	Name of institution.	President or dean.
Buffalo, N. Y.....	German Martin Luther Seminary.....	Rudolph Graben.
Canton, N. Y.....	Theological School of St. Lawrence University (Univ.).	John Murray Atwood, D. D.
Esopus, N. Y.....	Mount St. Alphonsus Theological Seminary, (R. C.).	Florian J. Reichert, C. SS. R.
Genève, N. Y.....	De Lancy Divinity School (P. E.).....	G. Sherman Burrows, D. D., warden.
Hamilton, N. Y.....	Theological Seminary, Colgate University (nonsect.).	John F. Vichert, D. D.
Hartwick Seminary, N. Y....	Hartwick Seminary (Ev. Luth.).....	A. E. Deits, D. D.
Houghton, N. Y.....	Houghton Wesleyan Methodist Theological Seminary.	James S. Luckey.
New York, N. Y.....	Bible Teachers Training School (interdenominational).	Wilbert W. White, D. D.
Do.....	General Theological Seminary of the Protestant Episcopal Church.	Hughell E. W. Fosbroke, D. D.
Do.....	Jewish Theological Seminary of America.	Cyrus Adler, Ph. D., acting president.
Do.....	Union Theological Seminary (interdenominational).	Arthur C. McOdford, D. D.
Niagara University, N. Y....	Niagara University Seminary of Our Lady o' Angels (R. C.).	Francis J. Dodd, C. M.
North Chili, N. Y.....	A. M. Chesbrough Seminary (Free Meth.).	W. R. Reynolds, principal.
Rochester, N. Y.....	Rochester Theological Seminary (Bapt.).	Clarence A. Barbour, D. D.
Do.....	St. Bernard's Theological Seminary (R. C.).	H. B. Meehan.
St. Bonaventure, N. Y.....	St. Bonaventure Seminary and College (R. C.).	Benvenute Ryan, O. F. M.
Yonkers, N. Y.....	St. Joseph's Seminary, Cathedral College (R. C.).	John P. Chidwick, D. D.
Ayden, N. C.....	Ayden Seminary (Free Will Bapt.).	J. E. Sawyer, A. B.
Belmont, N. C.....	Belmont Abbey Seminary (R. C.).	Leo Haid, D. D.
Charlotte, N. C.....	Biddle University School of Theology (colored) (Presb.).	H. L. McCrorey, D. D.
Raleigh, N. C.....	Shaw University Theological School (colored) (Bapt.).	Joseph L. Peacock.
Salisbury, N. C.....	Hood Theological Seminary of Livingstone College (A. M. E. Z.).	William O. Carrington, D. D.
Ashland, Ohio.....	Ashland College, Theological Seminary (Brethren).	J. H. Miller, A. B.
Berea, Ohio.....	Baldwin-Wallace College, Nest Theological Seminary (M. E.).	Frederic Cramer, D. D.
Bluffton, Ohio.....	Menonite Seminary, Bluffton College....	P. E. Whitmer, B. D.
Cathagenia, Ohio.....	St. Charles Theological Seminary (R. C.).	Boniface Russ, C. PP. S.
Cincinnati, Ohio.....	Hebrew Union College.....	Kaufmann Kohler, Ph. D.
Do.....	Lane Theological Seminary (Presb.).	William McKibbin, D. D.
Cincinnati (Mt. Washington Station, I.).	Mount St. Mary's Seminary of the West (R. C.).	Francis J. Beekman, S. T. D.
Cleveland, Ohio.....	St. Mary's Theological Seminary (R. C.).	James A. McFadden, D. D.
Columbus, Ohio.....	Evangelical Lutheran Theological Seminary, Capital University.	R. C. H. Lenski, D. D.
Dayton, Ohio.....	Bonebrake Theological Seminary (U. Breth.).	A. T. Howard.
Do.....	Central Theological Seminary of the Reformed Church in the United States.	Henry J. Christman, D. D.
Findlay, Ohio.....	Findlay College, Department of Theology (Church of God).	Charles T. Fox, Ph. D.
Gambier, Ohio.....	Kenyon College Divinity School (P. E.).	William Foster Peirce, D. D., acting dean.
Oberlin, Ohio.....	Graduate School of Theology of Oberlin College (Nonsect.).	Edward I. Bosworth, D. D.
Springfield, Ohio.....	Wittenberg College, Hazama Divinity School (Ev. Luth.).	David H. Beaulin, LL. D.
Wilberforce, Ohio.....	Wilberforce University, Payne Theological Seminary (A. M. E.).	George F. Woodson, D. D.
Eugene, Oreg.....	Eugene Bible University (Chris. or Disc.).	Eugene C. Sanderson, D. D.
Salem, Oreg.....	Kimball School of Theology.....	Eugene C. Hickman, D. D.
Beatty, Pa.....	St. Vincent's Seminary (R. C.).	Ambrose Kohlbeck, D. D.
Bethlehem, Pa.....	Moravian College Theological Seminary....	J. Taylor Hamilton, D. D.
Bryn Athyn, Pa.....	The Academy of the New Church, Theological Seminary (Ch. of N. Jeru.).	Alfred Acton.
Chester, Pa.....	Crozer Theological Seminary (Bapt.).	Milton G. Evans, D. D.
Gettysburg, Pa.....	Theological Seminary of the General Synod of Ev. Luth. Church in the United States.	J. A. Singmaster, D. D.
Huntingdon, Pa.....	Juniata College, School of Theology (Ch. of the Breth.).	Tobias T. Myers, D. D.
Lancaster, Pa.....	Theological Seminary of the Reformed Church in the United States.	Irwin H. De Long.
Lincoln University, Pa.....	Lincoln University Theological Department (Presb.) (colored).	Robert M. Labaree, D. D.
Loretto, Pa.....	St. Francis College and Seminary (R. C.).	Damien J. Segour, S. T. L.

## VIII.—PRESIDENTS OR DEANS OF SCHOOLS OF THEOLOGY—Continued.

Location.	Name of institution.	President or dean.
Meadville, Pa.....	Meadville Theological School (Unita.)...	Franklin C. Southworth, D. D.
Overbrook, Pa.....	St. Charles Borromeo Seminary (R. C.)...	Edmond J. Fitz Maurice, D. D., rector.
Philadelphia (Mount Airy), Pa.....	Lutheran Theological Seminary at Philadelphia.	Henry Eyster Jacobs, D. D.
Philadelphia, Pa.....	Divinity School of the Protestant Epis- copal Church.	George G. Bartlett, S. T. D.
Philadelphia (Germantown), Pa.....	St. Vincent Seminary (R. C.).....	Martin J. B. Coke, C. M., rector.
Philadelphia, Pa.....	Temple University, School of Theology (Nonsect.).	Walter B. Shumway, D. D.
Pittsburgh, Pa.....	Pittsburgh Theological Seminary (United Presb.).	John McNaugher, D. D.
Do.....	Reformed Presbyterian Theological Seminary.	Richard Cameron Wylie, D. D.
Do.....	Western Theological Seminary (Presb.).	James A. Kelso, D. D.
Selinsgrove, Pa.....	Susquehanna University School of Theology (Ev. Luth.).	Franklin P. Manhart, D. D.
Villanova, Pa.....	Augustinian Monastery of St. Thomas of Villanova (R. C.).	Joseph A. Hickey, O. S. A.
Columbia, S. C.....	Allen University, Dickerson Theological Seminary (A. M. E.).	I. H. Alston, B. D.
Columbia, S. C.....	Benedict College, Theological School (Bapt.).	T. G. Brownson, D. D.
Do.....	Columbia Theological Seminary (Presb.)	John M. Wells, D. D.
Do.....	Southern Lutheran Theological Semi- nary.	Andrew G. Voigt, D. D.
Due West, S. C.....	Erskine Theological Seminary (A. R. Presb.).	F. Y. Pressly, D. D.
Jackson, Tenn.....	Lane College Theological School (color- ed) (M. E.).	Isaac Snowden, B. D.
Kimberlin Heights, Tenn...	Johnson Bible College.....	Ashley Sidney Johnson, LL. D.
Knoxville, Tenn.....	Knoxville College Theological School (colored) (Un. Presb.).	J. Kelly Giffin, D. D.
Nashville, Tenn.....	Vanderbilt University School of Religion (nonsectarian)	O. E. Brown, D. D.
Sewanee, Tenn.....	University of the South Theological De- partment (P. E.).	Cleveland Keith Benedict, D. D.
Austin, Tex.....	Austin Presbyterian Theological Semi- nary.	Thomas W. Currie, D. D.
Dallas, Tex.....	School of Theology, Southern Methodist University.	Pane B. Kern, D. D.
Fort Worth, Tex.....	Southwestern Baptist Theological Semi- nary.	Lee R. Scarborough, D. D.
Do.....	Brite College of the Bible, Texas Chris- tian University.	Colby D. Hall, A. M.
Marshall, Tex.....	Bishop College Theological Department (colored) (Bapt.).	Charles H. Maxson, B. Di.
Peniel, Tex.....	Peniel Academy and Theological Semi- nary (Nazarine).	D. F. Brooks, D. D.
Seguin, Tex.....	Guadalupe College, Department of The- ology (colored) (Bapt.).	
Waco, Tex.....	Paul Quinn College, Department of Theology (A. M. A.).	Isaac M. Burgan, D. D.
Bridgewater, Va.....	Bridgewater College Bible Department (Breth.).	William T. Sanger, Ph. D.
Lynchburg, Va.....	Virginia Theological Seminary and Col- lege (Bapt.).	J. E. Briggs, D. D.
Petersburg, Va.....	Bishop Payne Divinity School (P. E.)...	C. B. Bryan, D. D.
Richmond, Va.....	Union Theological Seminary (Presb.)...	Walter W. Moore, D. D.
Do.....	Virginia Union University Theological Department (colored) (Bapt.).	William J. Clark, B. D., pres- ident.
Theological Seminary, Va...	Theological Seminary of the Protestant Episcopal Church in Virginia.	Berryman Green, D. D.
Spokane, Wash.....	Mount St. Michael's Divinity School (R. C.).	William J. Benn, S. J., rector.
Bethany, W. Va.....	Bethany College, School of Religion (Disc.).	Cloyd Goodnight, A. M.
Mount Calvary, Wis.....	St. Lawrence College (R. C.).....	Camillus Becker.
Nashotah, Wis.....	Nashotah House (Episcopal).....	Benj. F. P. Ivins.
Oconomowoc, Wis.....	College of the Immaculate Conception Theological School (R. C.).	Thomas P. Brown, C. SS. R., rector.
Plymouth, Wis.....	The Mission House of the Reformed Church.	A. E. Dahlmann, D. D.
St. Francis, Wis.....	Provincial Seminary of St. Francis de Sales (R. C.).	Joseph Rainer, V. G.
Wauwatosa, Wis.....	Evangelical Lutheran Theological Semi- nary.	John Schaller.

## IX.—PRESIDENTS OR DEANS OF SCHOOLS OF LAW.

Location.	Name of institution.	President or dean.
University, Ala.....	University of Alabama, Law Department.	Albert J. Farrah, LL. B.
Tucson, Ariz.....	University of Arizona, School of Law....	Samuel F. Feghtly, LL. B.
Little Rock, Ark.....	Arkansas Law School.....	John H. Carmichael, LL. B.
Berkeley, Calif.....	University of California School of Jurisprudence.	William Carey Jones, M. A.
Los Angeles, Calif.....	University of Southern California, College of Law.	Frank M. Porter, LL. M.
Do.....	Southwestern University, School of Law.	Rollin L. McNitt, LL. B.
San Francisco, Calif.....	Hastings College of Law, University of California.	Maurice E. Harrison, J. D.
Do.....	Law Department of St. Ignatius University.	Matt. I. Sullivan, LL. D.
Do.....	San Francisco Law School.....	James A. Ballentine, A. B.
Do.....	San Francisco Young Men's Christian Association Law School.	J. E. White, LL. B.
Santa Clara, Calif.....	University of Santa Clara Institute of Law.	Clarence C. Coolidge, J. D.
Stanford University, Calif.....	Leland Stanford Junior University, Law School.	Charles A. Huston, S. J. D.
Boulder, Colo.....	University of Colorado, School of Law..	John D. Fleming, LL. D.
Denver, Colo.....	University of Denver Law School.....	George C. Manly, LL. B.
New Haven, Conn.....	Yale University School of Law.....	Thomas Walter Swan, LL. B.
Washington, D. C.....	Catholic University of America, School of Law.	Peter J. McLaughlin, J. D., actg.
Do.....	Georgetown University School of Law..	George E. Hamilton, LL. D.
Do.....	George Washington University Law School.	Merton LeRoy Ferson, LL. B.
Do.....	Howard University School of Law (colored).	Mason N. Richardson, LL. B.
Do.....	National University Law School.....	Charles F. Carusi, LL. D.
Do.....	Washington College of Law.....	Emma M. Gillett, LL. M.
Deland, Fla.....	John B. Stetson University, College of Law.	Richard A. Rasco, LL. B.
Gainesville, Fla.....	University of Florida, College of Law....	Harry R. Trusler, LL. B.
Athens, Ga.....	University of Georgia, Law Department.	Sylvanus Morris, LL. D.
Atlanta, Ga.....	Atlanta Law School.....	Hamilton Douglas, LL. B.
Do.....	Emory University, Lamar School of Law.	Samuel C. Williams, LL. B.
Macon, Ga.....	Mercer University Law School.....	William H. Felton, B. L.
Moscow, Idaho.....	University of Idaho, College of Law.....	O. P. Cockerill, LL. B.
Bloomington, Ill.....	Illinois Wesleyan University, Bloomington Law School.	Charles L. Capen, A. M.
Chicago, Ill.....	Chicago Law School.....	Howard Henderson, LL. D.
Do.....	Chicago-Kent College of Law.....	Webster H. Burke, LL. M.
Do.....	De Paul University Law School.....	Francis X. Busch, LL. D.
Do.....	John Marshall Law School.....	Edward T. Lee, LL. B.
Do.....	Loyola University College of Law.....	Arnold D. McMahon, LL. B.
Do.....	Northwestern University Law School.....	John H. Wigmore, LL. D.
Do.....	University of Chicago Law School.....	James Parker Hall, LL. B.
Urbana, Ill.....	University of Illinois, College of Law.....	Henry C. Jones, S. J. D.
Bloomington, Ind.....	Indiana University, School of Law.....	Charles M. Hepburn, LL. D.
Indianapolis, Ind.....	Benjamin Harrison Law School.....	Wm. W. Thornton, LL. B.
Do.....	Indiana Law School, University of Indianapolis.	James A. Rohbach, LL. D.
Notre Dame, Ind.....	University of Notre Dame, College of Law.	Francis P. Vurpilliet, LL. B.
Valparaiso, Ind.....	Valparaiso University Law School.....	M. J. Bowman, Jr., LL. B.
Des Moines, Iowa.....	Drake University College of Law.....	Charles J. Hilkey, J. D.
Iowa City, Iowa.....	State University of Iowa, College of Law.	Dudley O. McGovney, LL. B.
Lawrence, Kans.....	University of Kansas Law School.....	
Topeka, Kans.....	Washburn College School of Law.....	Charles E. Carpenter, LL. B.
Lexington, Ky.....	University of Kentucky, College of Law.	William T. Lafferty, A. M.
Louisville, Ky.....	Jefferson School of Law.....	Thomas R. Gordon.
Do.....	Simmons University Central Law School (colored).	C. H. Parrish, LL. D.
Do.....	University of Louisville, Law Department.	Edward W. Hines, LL. D.
Baton Rouge, La.....	Louisiana State University, Law Department.	Robert L. Tuillis, LL. B.
New Orleans, La.....	Loyola University Law School.....	C. Cage, LL. D.
Do.....	Tulane University of Louisiana, College of Law.	Charles Payne Fenner, LL. B.
Orono, Me.....	University of Maine, College of Law.....	
Baltimore, Md.....	University of Maryland Law School.....	Henry D. Harlan, LL. D.
Boston, Mass.....	Boston University School of Law.....	Homer Albers, LL. B.
Do.....	Portia Law School.....	Arthur W. MacLean, J. M.
Do.....	Suffolk Law School.....	Gleason L. Archer, LL. B.
Do.....	Northeastern College School of Law.....	Everett Avery Churchill, A. B.
Cambridge, Mass.....	Harvard University Law School.....	Roscoe Pound, LL. D.
Ann Arbor, Mich.....	University of Michigan Law School.....	Henry M. Bates, LL. B.
Detroit, Mich.....	Detroit College of Law (conducted by Detroit Young Men's Christian Association).	William Krichbaum, LL. B.

## IX.—PRESIDENTS OR DEANS OF SCHOOLS OF LAW—Continued.

Location.	Name of institution.	President or dean.
Detroit, Mich.....	University of Detroit Law School.....	P. J. M. Hally, LL. D.
Minneapolis, Minn.....	University of Minnesota Law School.....	Everett Fraser, LL. B.
Do.....	Minnesota College of Law (Inc.).....	George T. Simpson, B. L.
St. Paul, Minn.....	St. Paul College of Law.....	Oscar Hallam, LL. B.
University, Miss.....	University of Mississippi School of Law.....	T. C. Kimbrough, LL. B.
Columbia, Mo.....	University of Missouri School of Law.....	J. P. McBaine, LL. B.
Kansas City, Mo.....	Kansas City School of Law.....	Edward D. Ellison.
St. Louis, Mo.....	Benton College of Law.....	George L. Corlis, LL. B.
Do.....	City College of Law and Finance.....	Eustace C. Wheeler, LL. B.
Do.....	St. Louis University Institute of Law.....	Paul Bakewell, LL. D.
Do.....	Washington University, St. Louis Law School.	Richard L. Goode, LL. D.
Missoula, Mont.....	State University of Montana College of Law.	C. W. Leaphart, LL. B.
Lincoln, Nebr.....	University of Nebraska College of Law.....	Warren A. Seavey, LL. B.
Omaha, Nebr.....	Creighton University, Creighton College of Law.	Louis J. TePoel, LL. B.
Do.....	University of Omaha, Omaha School of Law.	Alexander C. Troup, LL. B.
Newark, N. J.....	New Jersey Law School.....	Richard D. Currier, LL. B.
Albany, N. Y.....	Union University, Albany Law School.....	J. Newton Fiero, LL. D.
Brooklyn, N. Y.....	St. Lawrence University, Brooklyn Law School.	William P. Richardson, LL. D.
Buffalo, N. Y.....	University of Buffalo, Buffalo Law School.	Carlos C. Alden, J. D.
Ithaca, N. Y.....	Cornell University College of Law.....	George G. Bogert, LL. B.
New York, N. Y.....	Columbia University School of Law.....	Harlan F. Stone, LL. B.
Do.....	Fordham University School of Law.....	Francis P. Garvan, LL. D.
Do.....	New York Law School.....	George Chase, LL. B.
Do.....	New York University Law School.....	Frank H. Sommer, LL. D.
Syracuse, N. Y.....	Syracuse University College of Law.....	Frank R. Walker, D. C. L.
Chapel Hill, N. C.....	University of North Carolina School of Law.	Lucius Polk McGeehe, A. B.
Durham, N. C.....	Trinity College Law School.....	Samuel Fox Mordecai, LL. D.
Wake Forest, N. C.....	Wake Forest College Law School.....	Needham Y. Guiley, LL. D.
University, N. Dak.....	University of North Dakota School of Law.	Hugh E. Willis, LL. M.
Ada, Ohio.....	Ohio Northern University, College of Law.	Wm. P. Henderson.
Cincinnati, Ohio.....	University of Cincinnati, College of Law.	Alfred B. Benedict, LL. B.
Do.....	Young Men's Christian Association Night Law School.	Gilbert Bettman, LL. B.
Cleveland, Ohio.....	Baldwin-Wallace College, Cleveland Law School.	Willis Vickery, LL. D.
Do.....	Western Reserve University, Franklin T. Backus Law School.	Walter Thomas Dunmore, LL. B.
Columbus, Ohio.....	Ohio State University College of Law.....	John Jay Adams, LL. D.
Toledo, Ohio.....	St. John's University College of Law.....	John P. Manton.
Do.....	Toledo University College of Law.....	Aaron B. Cohn, LL. B.
Norman, Okla.....	University of Oklahoma School of Law.....	Julian C. Monnet, LL. B.
Eugene, Oreg.....	Law School, University of Oregon.....	William G. Hale, LL. B.
Salem, Oreg.....	Willamette University College of Law.....	I. H. Van Winkle, LL. B.
Carlisle, Pa.....	Dickinson School of Law.....	William Trickett, LL. D.
Philadelphia, Pa.....	Temple University School of Law.....	Francis Chapman, LL. B.
Do.....	University of Pennsylvania Law School.....	William E. Mikkell, LL. M.
Pittsburgh, Pa.....	Duquesne University School of Law.....	Joseph M. Swearingen, LL. D.
Do.....	University of Pittsburgh, Pittsburgh Law School.	A. M. Thompson, LL. M.
Manila, P. I.....	University of the Philippines, College of Law.	Jorge Bocobo, LL. B.
Rio Piedras, Porto Rico.....	University of Porto Rico College of Law.	C. W. St. John, A. M.
Columbia, S. C.....	University of South Carolina Law School.....	J. Nelson Frierson, LL. B.
Vermilion, S. Dak.....	University of South Dakota College of Law.	Marshall McKusick, LL. B.
Chattanooga, Tenn.....	Chattanooga College of Law.....	W. B. Swaney, LL. M.
Knoxville, Tenn.....	University of Tennessee College of Law.....	Malcolm McDermott, LL. B.
Lebanon, Tenn.....	Cumberland University Law School.....	Edward Fwing Beard, LL. B.
Nashville, Tenn.....	Vanderbilt University Law School.....	John Bell Keeble, LL. B.
Austin, Tex.....	University of Texas School of Law.....	John Charles Townes, LL. D.
Salt Lake City, Utah.....	University of Utah School of Law.....	William H. Leary, J. D.
Charlottesville, Va.....	University of Virginia, Department of Law.	William Minor Life, LL. D.
Lexington, Va.....	Washington and Lee University School of Law.	Joseph R. Long, LL. D.
Richmond, Va.....	Richmond University School of Law.....	James H. Barnett, jr., LL. B., secretary.
Seattle, Wash.....	University of Washington Law School.....	John T. Condon, LL. M.
Spokane, Wash.....	Gonzaga University, Department of Law.....	Edward J. Cannon, LL. D.
Morgantown, W. Va.....	West Virginia University College of Law.....	Henry Craig Jones, LL. B.
Madison, Wis.....	University of Wisconsin Law School.....	Harry Sanger Richards, LL. D.
Milwaukee, Wis.....	Marquette University College of Law.....	Max Schoetz, LL. B.
Laramie, Wyo.....	University of Wyoming Law School.....	E. F. Albertsworth, LL. D.



## X.—PRESIDENTS OR DEANS OF SCHOOLS OF MEDICINE.

[(H) designates the medical school as Homeopathic.]

Location.	Name of institution.	President or dean.
University, Ala.....	University of Alabama, Department of Medicine.	Clyde Brooks, M. D.
Little Rock, Ark.....	University of Arkansas, School of Medicine.	Morgan Smith, M. D.
Loma Linda and Los Angeles, Calif.....	College of Medical Evangelists.....	P. T. Magan, M. D.
San Francisco, Calif.....	Leland Stanford Junior University School of Medicine.	William Ophuis, M. D.
Do.....	University of California, Medical School <sup>1</sup> .	
Boulder and Denver, Colo.....	University of Colorado, School of Medicine.	Charles N. Meader, M. D.
New Haven, Conn.....	Yale University School of Medicine.....	Milton Charles Winternitz, M.D.
Washington, D. C.....	George Washington University, Medical School.	William C. Borden, M. D.
Do.....	Georgetown University, School of Medicine.	George M. Kober, M. D.
Do.....	Howard University, Medical College (colored).	Edward A. Balloch, M. D.
Atlanta, Ga.....	School of Medicine, Emory University.	W. S. Elkin, M. D.
Augusta, Ga.....	Medical Department, University of Georgia.	William H. Dougherty, Jr., M.D.
Chicago, Ill.....	Loyola University, School of Medicine..	Louis D. Moorhead, M. D.
Do.....	Chicago Medical School.	Charles Hill, M. D.
Do.....	Hahnemann Medical College and Hospital (H).	John C. Blake, Ph. D.
Do.....	Northwestern University, Medical School	Arthur Isaac Kendall, M. D.
Do.....	Rush Medical College, University of Chicago.	John Milton Dodson, M. D.
Do.....	University of Illinois, College of Medicine.	Albert C. Eycsehymmer, M. D.
Bloomington and Indianapolis, Ind.....	Indiana University School of Medicine..	Charles P. Emerson, M. D.
Iowa City Iowa.....	State University of Iowa, College of Medicine. <sup>1</sup>	Lee W. Dean, M. D.
Rosedale and Lawrence, Kans.....	University of Kansas, School of Medicine.	Merwin T. Sudler, M. D., associate dean.
Louisville, Ky.....	University of Louisville, Medical Department.	Henry Enos Tuley, M. D.
New Orleans, La.....	Tulane University of Louisiana, School of Medicine.	
Baltimore, Md.....	Johns Hopkins University, Medical Department.	J. Whitridge Williams, M. D.
Do.....	University of Maryland, School of Medicine and College of Physicians and Surgeons.	J. M. H. Rowland, M. D.
Boston, Mass.....	College of Physicians and Surgeons.....	Carolus M. Cobb, M. D.
Do.....	Harvard University, Medical School....	David Linn Edsall, M. D.
Do.....	Tufts College, Medical School.....	Charles F. Painter, M. D.
Do.....	Boston University, School of Medicine..	John P. Sutherland, M. D.
Cambridge, Mass.....	Middlesex College of Medicine and Surgery.	Roger S. York, M. D.
Ann Arbor, Mich.....	University of Michigan, Medical School.	
Do.....	University of Michigan, Homeopathic Medical School.	Wilbert B. Hinsdale, M. D.
Detroit, Mich.....	Detroit College of Medicine and Surgery.	W. H. MacCraken, M. D.
Minneapolis, Minn.....	University of Minnesota, Medical School.	E. P. Lyon, M. D.
University, Miss.....	University of Mississippi, School of Medicine.	Waller S. Leathers, M. D.
Columbia, Mo.....	University of Missouri, School of Medicine.	Guy L. Noyes, M. D.
Kansas City, Mo.....	Kansas City College of Medicine and Surgery.	
Do.....	Kansas City University of Physicians and Surgeons.	A. L. McKenzie, M. D.
St. Louis, Mo.....	St. Louis College of Physicians and Surgeons.	Waldo Briggs, M. D.
Do.....	St. Louis University, School of Medicine.	Hansu W. Loeb, M. D.
Do.....	Washington University, Medical School.	Nathanial Allison, M. D.
Lincoln and Omaha, Nebr..	University of Nebraska, College of Medicine.	Irving S. Cutler, M. D.
Omaha, Nebr.....	Creighton University, College of Medicine.	Herman von W. Schulte, M. D.
Hanover, N. H.....	Dartmouth Medical School.....	John M. Gile, M. D.
Albany, N. Y.....	Albany Medical College, Union University.	Thomas Ordway, M. D.
Brooklyn, N. Y.....	Long Island College Hospital.....	Adam M. Miller, A. M.
Buffalo, N. Y.....	University of Buffalo, Medical Department.	C. Sumner Jones, M. D.

<sup>1</sup> Includes electives in homeopathy in the curriculum of the medical school.<sup>2</sup> Includes an elective chair in homeopathic materia medica and therapeutics.

## X.—PRESIDENTS OR DEANS OF SCHOOLS OF MEDICINE—Continued.

Location.	Name of institution.	President or dean.
New York, N. Y. ....	Columbia University College of Physicians and Surgeons.	William Darrach, M. D.
New York and Ithaca, N. Y. ....	Cornell University, Medical College. ....	Walter L. Niles, M. D.
New York, N. Y. ....	University and Bellevue Hospital Medical College.	Samuel A. Brown, M. D.
Do. ....	New York Homeopathic Medical College and Flower Hospital.	Israel S. Kleiner, M. D., acting.
Syracuse, N. Y. ....	Syracuse University, College of Medicine.	John L. Heffron, M. D.
Chapel Hill, N. C. ....	University of North Carolina, School of Medicine.	Isaac H. Manning, M. D.
Wake Forest, N. C. ....	Wake Forest College, School of Medicine.	Thurman D. Kitchin, M. D.
University, N. Dak. ....	University of North Dakota, School of Medicine.	Harley E. French, M. D.
Cincinnati, Ohio. ....	University of Cincinnati, College of Medicine.	Henry Page, M. D.
Do. ....	Eclectic Medical College. ....	Rolla L. Thomas, M. D.
Cleveland, Ohio. ....	Western Reserve University, School of Medicine.	Carl A. Hamann, M. D.
Columbus, Ohio. ....	Ohio State University, College of Medicine.	E. F. McCampbell, M. D.
Do. ....	Ohio State University, College of Homeopathic Medicine.	Claude A. Burrett, M. D.
Norman and Oklahoma City, Okla. ....	University of Oklahoma, School of Medicine.	Le Roy Long, M. D.
Portland, Oreg. ....	University of Oregon, Medical School. ....	Richard B. Dillehunt, M. D.
Philadelphia. ....	Hahnemann Medical College and Hospital of Philadelphia (H.)	W. A. Pearson, M. D.
Do. ....	Jefferson Medical College.	Ross V. Patterson, M. D.
Do. ....	Temple University, School of Medicine.	Frank C. Hammond, M. D.
Do. ....	Medical School of the University of Pennsylvania.	William Pepper, M. D.
Do. ....	Woman's Medical College of Pennsylvania.	Martha Tracy, M. D.
Pittsburgh, Pa. ....	University of Pittsburgh, School of Medicine.	Raleigh B. Huggins, M. D.
Manila, P. I. ....	University of the Philippines, College of Medicine and Surgery.	Fernando Calderon, M. D.
Charleston, S. C. ....	Medical College of the State of South Carolina.	Robert Willson, Jr., M. D.
Vermilion, S. Dak. ....	University of South Dakota, College of Medicine.	Christian P. Lommen, M. D.
Memphis, Tenn. ....	University of Tennessee, College of Medicine.	James C. McElroy, M. D.
Do. ....	University of Western Tennessee Medical Department (colored).	M. V. Lynks, M. D.
Nashville, Tenn. ....	Vanderbilt University, School of Medicine.	L. E. Burch, M. D.
Do. ....	Meharry Medical College (colored). ....	John J. Mullooney, M. D.
Dallas, Tex. ....	Baylor University, Medical Department.	McIver Woody, M. D.
Galveston, Tex. ....	University of Texas, School of Medicine.	William S. Carter, M. D.
Salt Lake City, Utah. ....	University of Utah, School of Medicine.	Perry G. Snow, M. D.
Burlington, Vt. ....	University of Vermont, College of Medicine.	Henry C. Tinkham, M. D.
Charlottesville, Va. ....	University of Virginia, Medical Department.	Theodore Hough, Ph. D.
Richmond, Va. ....	Medical College of Virginia. ....	E. C. L. Miller, M. D.
Morgantown, W. Va. ....	West Virginia University, School of Medicine.	John N. Simpson, M. D.
Madison, Wis. ....	University of Wisconsin, Medical School.	Charles R. Bardeen, M. D.
Milwaukee, Wis. ....	Marquette University, School of Medicine.	Louis F. Jermain, M. D.

## XI.—PRESIDENTS OR DEANS OF SCHOOLS OF DENTISTRY.

Location.	Name of institution.	President or dean.
Los Angeles, Calif.....	University of Southern California, College of Dentistry.	Lewis E. Ford, D. D. S.
San Francisco, Calif.....	College of Physicians and Surgeons (Dental Institution).	Charles Boxton, D. D. S.
Do.....	University of California, College of Dentistry.	Guy S. Millberry, D. D. S.
Denver, Colo.....	Colorado College of Dental Surgery, University of Denver.	Manfred S. Fraser, D. D. S.
Washington, D. C.....	Georgetown University, Dental Department.	Bruce Taylor, D. D. S.
Do.....	Howard University Dental College (colored).	Andrew J. Brown, D. D. S., vice dean.
Atlanta, Ga.....	Atlanta-Southern Dental College.....	Thos. P. Hinman, D. D. S.
Chicago, Ill.....	Chicago College of Dental Surgery.....	Truman W. Brophy, LL. D.
Do.....	Northwestern University, Dental School.	Arthur D. Black, D. D. S.
Do.....	University of Illinois, College of Dentistry.	Frederick B. Moorehead, M. D.
Indianapolis, Ind.....	Indiana Dental College.....	Frederic R. Henshaw, D. D. S.
Iowa City, Iowa.....	State University of Iowa, College of Dentistry.	Frank T. Breane, D. D. S.
Louisville, Ky.....	University of Louisville, College of Dentistry.	Henry B. Tileston, D. D. S.
New Orleans, La.....	Loyola School of Dentistry, Loyola University.	C. V. Vignes, D. D. S.
Do.....	Tulane University of Louisiana, School of Dentistry.	Wallace Wood, jr., D. D. S.
Baltimore, Md.....	Baltimore College of Dental Surgery.....	W. G. Foster, D. D. S.
Do.....	University of Maryland, Dental Department.	Timothy O. Heatwole, D. D. S.
Boston, Mass.....	Harvard University, Dental School.....	Eugene Hanes Smith, D. M. D.
Do.....	Tufts College, Dental School.....	William Rice, D. M. D.
Ann Arbor, Mich.....	University of Michigan, College of Dental Surgery.	Marcus L. Ward, D. D. Sc.
Minneapolis, Minn.....	University of Minnesota, College of Dentistry.	Alfred Owre, D. M. D.
Kansas City, Mo.....	Kansas City-Western Dental College.....	Charles C. Allen, D. D. S.
St. Louis, Mo.....	St. Louis University, School of Dentistry.	James P. Harper, D. D. S.
Do.....	Washington University, School of Dentistry.	John H. Kennerly, D. D. S.
Lincoln, Nebr.....	University of Nebraska, College of Dentistry.	Wallace C. Davis, D. D. S.
Omaha, Nebr.....	Creighton University, College of Dentistry.	A. Hugh Hipple, D. D. S.
Buffalo, N. Y.....	University of Buffalo, College of Dentistry.	Daniel H. Squire, D. D. S.
New York, N. Y.....	College of Dental and Oral Surgery of New York.	William Carr, D. D. S.
Do.....	Columbia University, Dental School.....	James C. Egbert, Ph. D., director
Do.....	New York College of Dentistry.....	Alfred R. Starr, D. D. S.
Cincinnati, Ohio.....	Cincinnati College of Dental Surgery.....	G. S. Junkerman, D. D. S.
Do.....	Ohio College of Dental Surgery.....	Henry T. Smith, D. D. S.
Cleveland, Ohio.....	Western Reserve University, Dental School.	Frank M. Casto, D. D. S.
Columbus, Ohio.....	Ohio State University, College of Dentistry.	Harry M. Semans, D. D. S.
Portland, Oreg.....	North Pacific College of Dentistry.....	Herbert C. Miller, D. D. S.
Philadelphia, Pa.....	Temple University, School of Dentistry..	I. Norman Broomell, D. D. S.
Do.....	Thomas W. Evans Museum and Dental Institute, School of Dentistry, University of Pennsylvania.	Charles R. Turner, M. D.
Pittsburgh, Pa.....	University of Pittsburgh, School of Dentistry.	H. Edmund Friesell, D. D. S.
Memphis, Tenn.....	College of Dentistry, University of Tennessee.	Joseph A. Gardner.
Nashville, Tenn.....	Vanderbilt University, Dental Department.	Boyd Bogle, D. D. S.
Do.....	Meharry Dental College (colored).....	John J. Mallowney, M. D.
Dallas, Tex.....	College of Dentistry, Baylor University.	J. S. Wright, D. D. S.
Houston, Tex.....	Texas Dental College.....	O. F. Gambati.
Richmond, Va.....	School of Dentistry, Medical College of Virginia.	J. A. C. Hoggan, D. D. S.
Milwaukee, Wis.....	Marquette University, Dental Department.	Henry L. Bauzhaf, D. D. S.

## XII.—PRESIDENTS OR DEANS OF SCHOOLS OF PHARMACY.

Location.	Name of institution.	President or dean.
Auburn, Ala.....	Alabama Polytechnic Institute, Pharmacy Department.	L. S. Blake, M. S.
Los Angeles, Calif.....	University of Southern California, College of Pharmacy.	Laird J. Stabler, Sc. D.
San Francisco, Calif.....	California College of Pharmacy, University of California.	Franklin T. Green, Ph. G.
Boulder, Colo.....	University of Colorado, College of Pharmacy.	Homer C. Washburn, Ph. C.
Washington, D. C.....	George Washington University, School of Pharmacy.	Henry E. Kalusowski, Phar. D.
Do.....	Howard University, Pharmaceutic College (colored).	James H. Purdy, Phar. D., vice dean.
Athens, Ga.....	University of Georgia, School of Pharmacy.	Robert C. Wilson.
Atlanta, Ga.....	Atlanta College of Pharmacy.....	George F. Payne.
Do.....	Southern College of Pharmacy.....	R. C. Hood, Phar. D.
Chicago, Ill.....	University of Illinois, School of Pharmacy.	William B. Day, Phar. G.
Indianapolis, Ind.....	Indianapolis College of Pharmacy.....	Fred A. Mueller, Ph. G.
Lafayette, Ind.....	School of Pharmacy, Purdue University.	Charles B. Jordan, M. S., head of school.
Notre Dame, Ind.....	University of Notre Dame, School of Pharmacy.	Robert Lee Green, Ph. G.
Valparaiso, Ind.....	Valparaiso University, Department of Pharmacy.	Hugh Muldoon, Ph. G.
Des Moines, Iowa.....	Des Moines University, College of Pharmacy.	Elbert O. Kagy, Ph. C.
Iowa City, Iowa.....	State University of Iowa, College of Pharmacy.	Wilber J. Teeters, Phar. C.
Lawrence, Kans.....	University of Kansas, School of Pharmacy.	Lucius E. Sayre, M. S.
Louisville, Ky.....	Louisville College of Pharmacy.....	Oscar C. Dilly, M. D.
New Orleans, La.....	New Orleans College of Pharmacy (affiliated with Loyola University).	J. J. Grasser, M. D.
Do.....	Tulane University of Louisiana, School of Pharmacy.	
Baltimore, Md.....	Department of Pharmacy, University of Maryland.	E. Frank Kelley, Phar. D.
Boston, Mass.....	Massachusetts College of Pharmacy.....	Theodore J. Bradley, Phar. G.
Ann Arbor, Mich.....	University of Michigan, College of Pharmacy.	Edward Henry Kraus, Ph. D., acting dean.
Big Rapids, Mich.....	Ferris Institute, Pharmacy Department.	M. A. Jones, Ph. C.
Minneapolis, Minn.....	University of Minnesota, College of Pharmacy.	Frederick J. Wulling, Phm. D.
University, Miss.....	University of Mississippi, School of Pharmacy.	Henry M. Faser, Ph. G.
Kansas City, Mo.....	Kansas City College of Pharmacy.....	David V. Whitney, Ph. C.
St. Louis, Mo.....	St. Louis College of Pharmacy.....	Henry M. Whelpley, Phar. M.
Missoula, Mont.....	State University of Montana, School of Pharmacy.	Charles E. Mollet, Phm. C.
Lincoln, Nebr.....	University of Nebraska, College of Pharmacy.	Rufus A. Lyman, M. D.
Omaha, Nebr.....	Creighton University, Department of Pharmacy.	Howard C. Newton, Phm. C.
Newark, N. J.....	New Jersey College of Pharmacy.....	William O. Kuebler, president.
Albany, N. Y.....	Albany College of Pharmacy, Union University.	William Mansfield.
Brooklyn, N. Y.....	Brooklyn College of Pharmacy.....	William C. Anderson.
Buffalo, N. Y.....	Buffalo College of Pharmacy, University of Buffalo.	Willis G. Gregory, M. D.
New York, N. Y.....	College of Pharmacy of the City of New York, Columbia University.	Henry H. Rusby, M. D.
Do.....	Fordham University, College of Pharmacy.	Jacob Diner, M. D.
Chapel Hill, N. C.....	University of North Carolina, School of Pharmacy.	Edward V. Howell, Ph. G.
Agricultural College, N. Dak.....	North Dakota Agricultural College, School of Pharmacy.	W. F. Sudro, M. S.
Ada, Ohio.....	Ohio Northern University, College of Pharmacy.	Rudolph H. Raabe, Phar. C.
Cincinnati, Ohio.....	Cincinnati College of Pharmacy.....	Walter R. Griess, Phar. D.
Cleveland, Ohio.....	Western Reserve University, Cleveland School of Pharmacy.	Edward Spease, Ph. C.
Columbus, Ohio.....	Ohio State University, College of Pharmacy.	Clair A. Dye, Ph. D.
Toledo, Ohio.....	Toledo University, College of Pharmacy.	William McK. Reed, Ph. G.
Norman, Okla.....	State University of Oklahoma, School of Pharmacy.	David B. R. Johnson.
Corvallis, Oreg.....	Oregon Agricultural College, School of Pharmacy.	Adolph Zeifle, Ph. C.
Portland, Oreg.....	North Pacific College of Pharmacy.....	Frank C. Pearce, Ph. C.
Philadelphia, Pa.....	Philadelphia College of Pharmacy.....	Charles H. LaWall, Phar. M.
Do.....	Temple University, School of Pharmacy.	John R. Minehart, M. D.

## XII.—PRESIDENTS OR DEANS OF SCHOOLS OF PHARMACY—Continued.

Location.	Name of institution.	President or dean.
Pittsburgh, Pa.....	Pittsburgh College of Pharmacy, University of Pittsburgh.	Julius A. Koch, Sc. D.
Rio Piedras, P. R.....	University of Porto Rico, College of Pharmacy.	C. W. St. John, A. M.
Providence, R. I.....	Rhode Island College of Pharmacy and Allied Sciences.	Howard A. Pearce, Phar. D.
Charleston, S. C.....	Medical College of State of South Carolina, Department of Pharmacy.	Robert Wilson, jr.
Brookings, S. Dak.....	South Dakota State College of Agriculture and Mechanic Arts, School of Pharmacy.	Karl R. Series.
Memphis, Tenn.....	School of Pharmacy of the University of Tennessee.	James C. McElroy, M. D.
Nashville, Tenn.....	McHerry College of Pharmacy (colored).	John J. Mullooney, M. D.
Dallas, Tex.....	Baylor University, College of Pharmacy.	E. H. Cary, M. D.
Galveston, Tex.....	University of Texas, College of Pharmacy.	William S. Carter, M. D.
Salt Lake City, Utah.....	University of Utah, Department of Pharmacy.	Le Roy Dey Swingle, Ph. D.
Richmond, Va.....	School of Pharmacy, Medical College of Virginia.	Wentley F. Rudd, Phar. G.
Pullman, Wash.....	State College of Washington, School of Pharmacy.	P. H. Dirstine, Phar. G.
Seattle, Wash.....	University of Washington, College of Pharmacy.	Charles W. Johnson, Ph. D.
Morgantown, W. Va.....	Department of Pharmacy, West Virginia University.	John N. Simpson.
Madison, Wis.....	University of Wisconsin course in pharmacy.	Edward Kremers, director.

## XIII.—PRESIDENTS OF SCHOOLS OF OSTEOPATHY.

Location.	Name of institution.	President.
Los Angeles, Calif.....	College of Osteopathic Physicians and Surgeons.	L. C. Chandler, D. O.
Chicago, Ill.....	Chicago College of Osteopathy.....	J. H. Raymond, D. O.
Des Moines, Iowa.....	Des Moines State College of Osteopathy.....	E. L. Taylor, B. O.
Boston, Mass.....	Massachusetts College of Osteopathy.....	J. Oliver Sartwell, D. O.
Kansas City, Mo.....	Central College of Osteopathy, Kansas City University of Physicians and Surgeons.	A. L. McKenzie, D. O.
Do.....	Kansas City College of Osteopathy and Surgery.	S. H. Kjermer, D. O.
Kirksville, Mo.....	American School of Osteopathy.....	George A. Still, D. O.
Philadelphia, Pa.....	Philadelphia College of Osteopathy and Osteopathic Hospital.	Arthur J. Flack, D. O.

## XIV.—PRESIDENTS OR DEANS OF SCHOOLS OF VETERINARY MEDICINE.

Location.	Name of institution.	President or dean.
Auburn, Ala.....	Alabama Polytechnic Institute, College of Veterinary Medicine.	C. A. Cary, D. V. M.
Fort Collins, Colo.....	Colorado Agricultural College, Division of Veterinary Medicine.	George H. Glover.
Washington, D. C.....	United States College of Veterinary Surgeons.	H. Stanley Gamble, D. V. S.
Chicago, Ill.....	Chicago Veterinary College.....	Joseph Hughes.
Indianapolis, Ind.....	Indiana Veterinary College.....	Joseph W. Klotz, V. S.
Terre Haute, Ind.....	Terre Haute Veterinary College.....	C. I. Fleming.
Ames, Iowa.....	Iowa State College, Division of Veterinary Medicine.	Charles H. Stange, D. V. M.
Manhattan, Kans.....	Kansas State Agricultural College, Veterinary Department.	Ralph R. Dykstra, D. V. M.
Grand Rapids, Mich.....	Grand Rapids Veterinary College.....	C. S. McGuire.
Columbia, Mo.....	University of Missouri, Department of Veterinary Science.	Frederick B. Mumford, M. S.
St. Joseph, Mo.....	St. Joseph Veterinary College.....	R. C. Moore.
Reno, Nev.....	University of Nevada, State Veterinary Control Service.	Edward Records, V. M. D., director.
Ithaca, N. Y.....	New York State Veterinary College at Cornell University.	Veranus A. Moore, V. M. D.

**XIV.—PRESIDENTS OR DEANS OF SCHOOLS OF VETERINARY MEDICINE—Continued.**

Location.	Name of institution.	President or dean.
New York, N. Y.....	New York State Veterinary College at New York University.	W. Horace Hoskins, D. V. S.
Agricultural College, N. Dak.....	North Dakota Agricultural College, School of Veterinary Medicine and Surgery.	A. F. Schalk.
Columbus, Ohio.....	Ohio State University, College of Veterinary Medicine.	David S. White, D. V. M.
Stillwater, Okla.....	Oklahoma Agricultural and Mechanical College, School of Veterinary Medicine.	Lowery L. Lewis, D. V. M.
Corvallis, Oreg.....	Oregon Agricultural College, Department of Veterinary Medicine.	Bennett T. Stimms, D. V. M.
Philadelphia, Pa.....	University of Pennsylvania, School of Veterinary Medicine.	Louis A. Klein, V. M. D.
Manila, P. I.....	University of the Philippines, College of Veterinary Science.	Alonso S. Shealy, D. V. M.
College Station, Tex.....	Agricultural and Mechanical College of Texas.	Mark Francis, D. V. M.
Pullman, Wash.....	State College of Washington, College of Veterinary Science.	Earl E. Wegener, D. V. S.

**XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS.****I. PRESIDENTS OF TEACHERS' COLLEGES.**

Teacher-training institutions which offer four years' work above the secondary school and grant degrees.

Location.	Name of institution.	For men, for women, or coeducational.	President.
<b>ARKANSAS.</b>			
Conway.....	Arkansas State Normal School....	Coed.....	B. W. Torreyson.
<b>CALIFORNIA.</b>			
Chico.....	State Teachers' College of Chico....	Coed.....	C. M. Osenbaugh.
<b>COLORADO.</b>			
Greeley.....	State Teachers' College of Colorado.	Coed.....	John G. Crabbe.
Gunnison.....	Colorado State Normal School.....	Coed.....	Samuel Quigley.
<b>ILLINOIS.</b>			
Carbondale.....	Southern Illinois State Normal University.	Coed.....	H. W. Shryock.
Charleston.....	Eastern Illinois State Teachers' College.	Coed.....	Livingston C. Lord.
Chicago.....	National Kindergarten and Elementary College. <sup>1</sup>	Women...	Edna Dean Baker.
De Kalb.....	Northern Illinois State Teachers' College.	Coed.....	J. Stanley Brown.
Macomb.....	Western Illinois State Teachers' College.	Coed.....	W. P. Morgan.
Normal.....	Illinois State Normal University..	Coed.....	David Felmley.
<b>INDIANA.</b>			
Angola.....	Tri-State College <sup>1</sup> .....	Coed.....	L. M. Sniff.
Danville.....	Central Normal College <sup>1</sup> .....	Coed.....	Jonathan Rigdon.
Indianapolis.....	Teachers' College of Indianapolis <sup>1</sup> .	Women	Eliza A. Blaker.
Terre Haute.....	The Indiana State Normal School.	Coed.....	Linnaeus N. Hines.
Muncie.....	Indiana State Normal School, Eastern Division.	Coed.....	Do.
<b>IOWA.</b>			
Cedar Falls.....	Iowa State Teachers' College.....	Coed.....	H. H. Seerley.

<sup>1</sup> Private.

## XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS—Con.

## I. PRESIDENTS OF TEACHERS' COLLEGES—continued.

Location.	Name of institution.	For men, for women, or coedu- cational.	President.
<b>KANSAS.</b>			
Emporia.....	Kansas State Normal School.....	Coed.....	Thos. W. Butcher.
Hays.....	Fort Hays Kansas State Normal School.....	Coed.....	W. A. Lewis.
Pittsburg.....	State Manual Training Normal College.....	Coed.....	W. A. Brandenburg.
<b>LOUISIANA.</b>			
Natchitoches.....	Louisiana State Normal College...	Coed.....	V. L. Roy.
<b>MASSACHUSETTS.</b>			
Boston.....	Massachusetts Normal Art School.	Coed.....	Royal B. Farnum.
Bridgewater.....	State Normal School.....	Coed.....	Arthur C. Boyden.
Framingham.....	do.....	Women.....	James Chalmers.
Salem.....	do.....	Coed.....	J. Asbury Pittman.
Worcester.....	do.....	Women.....	Wm. B. Aspinwall.
<b>MICHIGAN.</b>			
Kalamazoo.....	Western State Normal School.....	Coed.....	D. B. Waldo.
Marquette.....	Northern State Normal School.....	Coed.....	James H. Kaye.
Mount Pleasant.....	Central State Normal School.....	Coed.....	E. C. Warriner.
Ypsilanti.....	Michigan State Normal College....	Coed.....	Charles McKenny.
<b>MINNESOTA.</b>			
Bemidji.....	State Teachers' College.....	Coed.....	M. W. Deputy.
Duluth.....	do.....	Coed.....	E. W. Bohannon.
Mankato.....	do.....	Coed.....	C. H. Cooper.
Moorhead.....	do.....	Coed.....	O. M. Dickerson.
St. Cloud.....	do.....	Coed.....	J. C. Brown.
Winona.....	do.....	Coed.....	Guy E. Maxwell.
<b>MISSOURI.</b>			
Cape Girardeau.....	Southeast Missouri State Teachers' College.....	Coed.....	Jos. A. Serena.
Jefferson City.....	Lincoln University.....	Coed.....	C. Richardson.
Kirkville.....	Northeast Missouri State Teachers' College.....	Coed.....	John R. Kirk.
Maryville.....	Northwest Missouri State Teach- ers' College.....	Coed.....	Uel W. Lamkin.
Springfield.....	Southwest Missouri State Teach- ers' College.....	Coed.....	Clyde M. Hill.
Warrensburg.....	Central Missouri State Teachers' College.....	Coed.....	E. L. Hendricks.
<b>NEBRASKA.</b>			
Chadron.....	State Normal School and Teach- ers' College.....	Coed.....	Robert I. Elliott.
Kearney.....	do.....	Coed.....	Geo. E. Martin.
Peru.....	do.....	Coed.....	A. L. Caviness.
Wayne.....	do.....	Coed.....	U. S. Conn.
<b>NEW MEXICO.</b>			
East Las Vegas.....	New Mexico Normal University...	Coed.....	Jonathan H. Wagner.
Silver City.....	New Mexico State Normal School.	Coed.....	James F. Chamberlain.
<b>NEW YORK.</b>			
Albany.....	New York State College for Teach- ers.....	Coed.....	A. R. Brubacher.
<b>NORTH DAKOTA.</b>			
Bottineau.....	Forestry State Normal School.....	Coed.....	Vernon L. Mangun.
Dickinson.....	State Normal School.....	Coed.....	Samuel T. May.
Ellendale.....	State Normal and Industrial School.....	Coed.....	R. M. Black.
Mayville.....	State Normal School.....	Coed.....	John O. Evjen.
Minot.....	do.....	Coed.....	L. H. Buler.
Valley City.....	State Teachers' College.....	Coed.....	C. E. Allen.

\* For colored persons.

## XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS—Con.

## I. PRESIDENTS OF TEACHERS' COLLEGES—continued.

Location.	Name of institution.	For men, for women, or coedu- cational.	President.
<b>OHIO.</b>			
Bowling Green.....	State Normal College.....	Coed.....	H. B. Williams.
Kent.....	do.....	Coed.....	J. E. McGilvrey.
<b>OKLAHOMA.</b>			
Ada.....	East Central State Teachers' Col- lege.	Coed.....	A. Linscheid.
Alva.....	Northwestern Normal College.....	Coed.....	J. P. Battenberg.
Durant.....	Southeastern State Normal School.....	Coed.....	H. G. Bennett.
Edmond.....	Central State Teachers' College.....	Coed.....	John G. Mitchell.
Langston.....	Colored Agricultural and Normal University. <sup>1</sup>	Coed.....	J. M. Marquess.
Tablequah.....	Northeastern State Normal School.....	Coed.....	W. T. Ford.
Weatherford.....	Southwestern State Teachers' Col- lege.	Coed.....	A. H. Burris.
<b>RHODE ISLAND.</b>			
Providence.....	Rhode Island College of Education.	Coed.....	John L. Alger.
<b>SOUTH CAROLINA.</b>			
Orangeburg.....	State Agricultural and Mechanical College. <sup>2</sup>	Coed.....	R. S. Wilkinson.
<b>SOUTH DAKOTA.</b>			
Aberdeen.....	Northern Normal and Industrial School.	Coed.....	Harold W. Focht.
<b>TENNESSEE.</b>			
Nashville.....	George Peabody College for Teach- ers. <sup>1</sup>	Coed.....	Bruce Ryburn Payne.
<b>TEXAS.</b>			
Alpine.....	Sul Ross State Normal College....	Coed.....	R. L. Marquis.
Canyon.....	West Texas State Normal College.	Coed.....	Joseph Abner Hill.
Commerce.....	East Texas State Normal College..	Coed.....	R. B. Binnion.
Denton.....	North Texas State Normal College.	Coed.....	W. H. Bruce.
Huntsville.....	Sam Houston Normal Institute.....	Coed.....	H. F. Estill.
Prairie View.....	Prairie View State Normal and Industrial College. <sup>2</sup>	Coed.....	J. G. Osborne.
San Marcos.....	Southwest Texas State Normal College.	Coed.....	C. E. Evans.
<b>VIRGINIA.</b>			
East Radford.....	State Normal School for Women..	Women...	John Preston McConnell.
Farmville.....	do.....	Women...	Jos. L. Jarman.
Fredericksburg.....	do.....	Women...	A. B. Chandler, jr.
Harrisonburg.....	do.....	Women...	Samuel P. Duke.
<b>WEST VIRGINIA.</b>			
Huntington.....	Marshall College.....	Coed.....	F. R. Hamilton.
Institute.....	West Virginia Collegiate Institute <sup>2</sup>	Coed.....	John W. Davis.
<b>WISCONSIN.</b>			
Menomonie.....	The Stout Institute.....	Coed.....	L. D. Harvey.

<sup>1</sup> Private.<sup>2</sup> For colored persons.



## XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS—(C).

## II. PRINCIPALS OF NORMAL TRAINING SCHOOLS.

## 1. Public Normal Schools.

Location.	Name of institution.	Formen, for women, or coedu- cational.	Principal.
<b>ALABAMA.</b>			
Carrollton.....	Pickens County Training School <sup>1</sup> .....	Coed.....	A. R. Spencer.
Centerville.....	Bibb County Training School <sup>1</sup> .....	Coed.....	H. D. Davidson.
Cottage Grove.....	Coosa County Training School <sup>1</sup> .....	Coed.....	J. T. Trail.
Daphne.....	Baldwin County Training School <sup>1</sup> .....	Coed.....	Ligon A. Wilson.
Do.....	State Normal School.....	Coed.....	Hilary H. Holmes.
Florence.....	do.....	Coed.....	Henry J. Willingham.
Hayneville.....	Lowndes County Training School <sup>1</sup> .....	Coed.....	C. P. Everett.
Jacksonville.....	State Normal School.....	Coed.....	C. W. Daugette.
Livingston.....	do.....	Coed.....	G. W. Brock.
Montgomery.....	do. <sup>1</sup> .....	Coed.....	G. W. Trenholm.
Normal.....	State Agricultural & Mechanical Institute.....	Coed.....	T. R. Parker, acting.
Plateau.....	Mobile County Training School <sup>1</sup> .....	Coed.....	Isaiah J. Whitley.
Troy.....	State Normal School.....	Coed.....	E. M. Shackelford.
<b>ARIZONA.</b>			
Flagstaff.....	Northern Arizona Normal School.....	Coed.....	Lynn B. McMullen.
Tempe.....	Arizona Normal School.....	Coed.....	Arthur J. Matthews.
<b>ARKANSAS.</b>			
Edmondson.....	Crittenden County Training School. <sup>1</sup> .....	Coed.....	B. J. Reed.
Fordyce.....	Dallas County Training School <sup>1</sup> .....	Coed.....	S. J. Anderson.
Hope.....	Hempstead County Training School. <sup>1</sup> .....	Coed.....	H. C. Yarger.
Marianna.....	Lee County Training School <sup>1</sup> .....	Coed.....	D. W. Hughes.
Pine Bluff.....	Branch Normal College <sup>1</sup> .....	Coed.....	C. W. Smith.
<b>CALIFORNIA.</b>			
Arcata.....	Humboldt State Teachers' College.....	Coed.....	N. B. Van Matre.
Fresno.....	State Teachers' College of Fresno.....	Coed.....	C. L. McLane.
San Diego.....	State Teachers' College of San Diego.....	Coed.....	Edward L. Hardy.
San Francisco.....	State Teachers' College of San Francisco.....	Coed.....	Frederic Burk.
San Jose.....	State Teachers' College of San Jose.....	Coed.....	Wm. W. Kemp.
Santa Barbara.....	State Teachers' College.....	Coed.....	Clarence S. Phelps.
<b>CONNECTICUT.</b>			
Bridgeport.....	City Normal School.....	Women...	Le Roy Weller.
Danbury.....	State Normal Training School.....	Coed.....	J. R. Parkins.
New Britain.....	Normal School.....	Coed.....	Marcus White.
New Haven.....	State Normal Training School.....	Women...	Arthur B. Merrill.
Willimantic.....	do.....	Coed.....	George H. Shafar.
<b>DISTRICT OF COLUMBIA.</b>			
Washington.....	J. Ormond Wilson Normal School.....	Coed.....	Anne M. Goding.
Do.....	Miner Normal School.....	Coed.....	Eugene A. Clark.
<b>GEORGIA.</b>			
Athens.....	State Normal School.....	Coed.....	J. M. Pound.
Atlanta.....	Normal Training School.....	Women...	Emma Wesley.
Milledgeville.....	Georgia Normal and Industrial College.....	Women...	M. M. Parks.
Sandersville.....	Washington County Training School. <sup>1</sup> .....	Coed.....	T. J. Elder.
Valdosta.....	South Georgia State Normal Col- lege.....	Women...	R. H. Powell.
<b>HAWAII.</b>			
Honolulu.....	Territorial Normal School.....	Coed.....	Benj. O. Wist.
<b>IDAHO.</b>			
Albion.....	State Normal School.....	Coed.....	C. E. Bockock.
Lewiston.....	do.....	Coed.....	Oliver M. Elliott.

<sup>1</sup> For colored persons.

XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS—*Con.*II. PRINCIPALS OF NORMAL TRAINING SCHOOLS—*continued.*1. Public Normal Schools—*Continued.*

Location.	Name of institution.	For men, for women, or coedu- cational.	Principal.
<b>ILLINOIS.</b>			
Chicago.....	Chicago Normal College.....	Coed.....	Wm. B. Owen.
<b>INDIANA.</b>			
Fort Wayne.....	Fort Wayne Normal School.....	Coed.....	Flora W. H. B.
Indianapolis.....	Indianapolis Normal Training School.....	Women.....	Marion Lee Webster.
<b>IOWA.</b>			
Sioux City.....	Sioux City Normal School.....	Women.....	Amelia H. Rhynsbarger.
<b>KENTUCKY.</b>			
Bowling Green.....	Western Kentucky State Normal School.....	Coed.....	H. H. Cherry.
Frankfort.....	Kentucky Normal and Industrial Institute. <sup>1</sup> .....	Coed.....	O. P. Russell.
Louisville.....	Louisville Normal School.....	Women.....	Elizabeth Breckinridge.
Paris.....	Bourbon County Training School. <sup>1</sup> .....	Coed.....	W. J. Collier.
Richmond.....	Eastern Kentucky State Normal School.....	Coed.....	T. J. Coates.
<b>LOUISIANA.</b>			
Bastrop.....	Morehouse County Training School. <sup>1</sup> .....	Coed.....	R. G. Steptoe.
Converse.....	Shibline County Training School. <sup>1</sup> .....	Coed.....	W. B. Purvis.
Franklinton.....	Washington County Training School. <sup>1</sup> .....	Coed.....	B. P. Smith.
Grambling.....	Lincoln County Training School. <sup>1</sup> .....	Coed.....	Chas. P. Adams.
New Orleans.....	New Orleans Normal and Train- ing School.....	Coed.....	Mrs. Margaret C. Hanson.
<b>MAINE.</b>			
Castine.....	Eastern State Normal School.....	Coed.....	William D. Hall.
Farmington.....	State Normal School.....	Coed.....	Wilbert O. Mallett.
Gorham.....	Western State Normal School.....	Coed.....	W. E. Russell.
Lewiston.....	Dingley Normal Training School.....	Women.....	Adelaide V. Finch.
Machias.....	Washington State Normal School.....	Coed.....	Wm. L. Powers.
Presque Isle.....	Aroostook State Normal School.....	Coed.....	S. L. Merriman.
<b>MARYLAND.</b>			
Baltimore.....	Baltimore Teachers' Training School.....	Coed.....	Norman W. Cameron.
Do.....	do. <sup>1</sup> .....	Coed.....	J. Joseph H. Lockerman.
Bowie.....	Maryland State Normal and In- dustrial School. <sup>1</sup> .....	Coed.....	L. S. James.
Frostburg.....	State Normal School.....	Coed.....	James Widdowson.
Towson.....	Maryland State Normal School.....	Coed.....	Lida Lee Tall.
<b>MASSACHUSETTS.</b>			
Boston.....	Boston Normal School.....	Women.....	Wallace C. Boyden.
Fitchburg.....	State Normal School.....	Coed.....	Wm. D. Parkinson, acting.
Hyannis.....	do.....	Coed.....	Wm. A. Baldwin.
Lowell.....	do.....	Women.....	Clarence M. Weed.
North Adams.....	do.....	Women.....	Roy Leon Smith.
Westfield.....	do.....	Women.....	Clarence A. Brodeur.
<b>MICHIGAN.</b>			
Allegan.....	County Normal School.....	Coed.....	Stella Higgins.
Berrien Springs.....	do.....	Coed.....	Jennie L. Burton.
Big Rapids.....	Mecosta County Normal School.....	Coed.....	Edith A. Collins.
Blissfield.....	Lenawee County Normal School.....	Coed.....	Trixie Lamb.
Cadillac.....	Wexford County Normal School.....	Coed.....	Nora Owens.
Caro.....	Tuscola County Normal School.....	Coed.....	Lucile Hutchinson.
Charlevoix.....	Charlevoix County Normal School.....	Coed.....	Lois Bowman.
Charlotte.....	Eaton County Normal School.....	Coed.....	Mrs. Ada Carrick.
Cheboygan.....	Cheboygan County Normal School.....	Coed.....	Lillian Morris.
Chesaning.....	Saginaw County Normal School.....	Coed.....	Martha Knight.
Detroit.....	Detroit Teachers' College.....	Coed.....	S. A. Courtis, dean.

<sup>1</sup> For colored persons.

## XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS—Con.

## II. PRINCIPALS OF NORMAL TRAINING SCHOOLS—continued.

1. *Public Normal Schools*—Continued.

Location.	Name of institution.	For men, for women, or coedu- cational.	Principal.
<b>MICHIGAN—continued.</b>			
Dowagiac.....	Cass County Normal School.....	Coed.....	Frances L. Burns.
East Tawas.....	Iosco County Normal Training School.....	Coed.....	Mrs. J. K. Ogerby.
Evart.....	Oscoda County Normal School.....	Coed.....	Pearl C. Bigge.
Flint.....	Genesee County Normal School.....	Coed.....	Bess B. Penoyer.
Frankfort.....	Benzie County Normal School.....	Coed.....	Beryl Haynes.
Gladwin.....	Gladwin County Normal School.....	Coed.....	Alberta Alkin.
Hastings.....	Barry County Normal School.....	Coed.....	Mrs. Mabel T. Clark.
Ionia.....	Ionia County Normal School.....	Coed.....	Effie Caskey.
Kalkaska.....	County Normal School.....	Coed.....	Alice V. Caldwell.
Lake City.....	Missaukee County Normal School.....	Coed.....	Mildred L. Dunning.
Lapeer.....	Lapeer County Normal School.....	Coed.....	Emma Loughname.
Ludington.....	Mason County Normal School.....	Coed.....	A. E. Field.
Mancelona.....	Antrim County Normal School.....	Coed.....	Florence Pitcher.
Manistee.....	Manistee County Normal School.....	Coed.....	Benj. Klager, superintendent.
Marshall.....	Calhoun County Normal School.....	Coed.....	Wilma Davis.
Mason.....	County Normal School.....	Coed.....	Marion Blount.
Onaway.....	Presque Isle County Normal School.....	Coed.....	Amanda Hebel.
Ontonagon.....	Ontonagon County Normal School.....	Coed.....	Mary Black.
Petoskey.....	Emmet County Normal School.....	Coed.....	Maud Ball.
St. Johns.....	Clinton County Normal School.....	Coed.....	Martha McArthur.
Standish.....	Arenac County Normal School.....	Coed.....	Emma Connor.
Stanton.....	Montcalm County Normal School.....	Coed.....	Ina McNeal.
Traverse City.....	Grand Traverse County Normal School.....	Coed.....	Anna L. Evans.
West Branch.....	Ogemaw County Normal School.....	Coed.....	Lillian M. Greer.
<b>MISSISSIPPI.</b>			
Hattiesburg.....	Mississippi Normal College.....	Coed.....	Joe Cook.
Purvis.....	Lamar County Training School <sup>1</sup> .....	Coed.....	J. J. Jefferson.
Tupelo.....	Lee County Training School <sup>1</sup> .....	Coed.....	A. M. Strange.
<b>MISSOURI.</b>			
St. Louis.....	Harris Teachers' College.....	Coed.....	E. George Payne.
<b>MONTANA.</b>			
Dillon.....	Montana State Normal College.....	Coed.....	Sheldon E. Davis.
<b>NEW HAMPSHIRE.</b>			
Concord.....	Dewey Training School.....	Women.....	Addie F. Straw.
Keene.....	State Normal School.....	Coed.....	Wallace E. Mason.
Plymouth.....	do.....	Coed.....	Ernest L. Silver.
Portsmouth.....	Portsmouth Training School.....	Women.....	Alice Mildram.
<b>NEW JERSEY.</b>			
Jersey City.....	Training School for Teachers.....	Coed.....	J. H. Brensinger.
Montclair.....	State Normal School.....	Coed.....	Charles S. Chapin.
Newark.....	do.....	Coed.....	W. S. Willis.
Paterson.....	City Normal Training School.....	Coed.....	Frank Webster Smith.
Trenton.....	State Normal School.....	Coed.....	J. J. Savitz.
<b>NEW MEXICO.</b>			
El Rito.....	Spanish-American Normal School.....	Coed.....	Filadelfo Baca.
<b>NEW YORK.</b>			
Brockport.....	State Normal School.....	Coed.....	Alfred C. Thompson.
Brooklyn.....	Maxwell Training School for Teachers.....	Coed.....	Emma L. Johnston.
Buffalo.....	State Normal School.....	Coed.....	Harry W. Rockwell.
Cortland.....	State Normal and Training School.....	Coed.....	H. De W. De Groat.
Fredonia.....	State Normal School.....	Coed.....	Myron T. Dana.
Genesee.....	State Normal School.....	Coed.....	James V. Sturges.

<sup>1</sup> For colored persons.

## XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS—Con.

## II. PRINCIPALS OF NORMAL TRAINING SCHOOLS—continued.

## 1. Public Normal Schools—Continued.

Location.	Name of institution.	For men, for women, or coedu- cational.	Principal.
<b>NEW YORK—contd.</b>			
Jamaica.....	Training School for Teachers.....	Coed.....	A. C. McLachlan.
New Paltz.....	State Normal School.....	Coed.....	John C. Bliss.
New York.....	New York Training School for Teachers.	Coed.....	Hugo Newman.
Oneonta.....	State Normal School.....	Coed.....	P. I. Bugbee.
Oswego.....	do.....	Coed.....	James G. Riggs.
Plattsburgh.....	do.....	Coed.....	Geo. K. Hawkins.
Potsdam.....	do.....	Coed.....	R. T. Congdon.
Rochester.....	City Normal School.....	Coed.....	Edward J. Bonner.
Schenectady.....	Schenectady Teachers' Training School.	Coed.....	G. B. Jeffers.
Syracuse.....	Syracuse Training School for Teachers.	Women.....	J. Edward Banta.
Watertown.....	Watertown Training School.....	Coed.....	Ella Marie Walradt.
<b>NORTH CAROLINA.</b>			
Bayboro.....	Pamlico County Training School <sup>1</sup> .....	Coed.....	R. L. Rice.
Boone.....	Appalachian Training School.....	Coed.....	B. B. Dougherty.
Clinton.....	Sampson County Training School <sup>1</sup> .....	Coed.....	Z. H. Hyman.
Cullowhee.....	Cullowhee Normal and Industrial School.	Coed.....	Robert L. Madison.
Elizabeth City.....	State Normal School <sup>1</sup> .....	Coed.....	P. W. Moore.
Fayetteville.....	do.....	Coed.....	E. E. Smith.
Greenville.....	East Carolina Teachers' Training School.	Women.....	Robert H. Wright.
Grimesland.....	Pitt County Training School <sup>1</sup> .....	Coed.....	G. R. Whitfield.
Method.....	Berry O'Kelly Training School <sup>1</sup> .....	Coed.....	J. H. Bias.
Parmele.....	Martin County Training School <sup>1</sup> .....	Coed.....	W. C. Chance.
Powellville.....	Bertie County Training School <sup>1</sup> .....	Coed.....	C. G. White.
Rocky Point.....	Pender County Training School <sup>1</sup> .....	Coed.....	T. T. Ringer.
Shelby.....	Cleveland County Training School. <sup>1</sup>	Coed.....	A. W. Foster.
Smithfield.....	Johnston County Training School <sup>1</sup> .....	Coed.....	Wm. M. Cooper.
Southport.....	Brunswick County Training School. <sup>1</sup>	Coed.....	Jno. H. Floyd.
Sunbury.....	Gates County Training School <sup>1</sup> .....	Coed.....	T. S. Cooper.
Wadesboro.....	Anson County Training School <sup>1</sup> .....	Coed.....	J. R. Faison.
Winston-Salem.....	The Slater State Normal School <sup>1</sup> .....	Coed.....	S. G. Atkins.
<b>OHIO.</b>			
Anna.....	Shelby County Normal School.....	Coed.....	Mabel Dillahun.
Ansonia.....	Darke County Normal School.....	Coed.....	Anna Todd.
Batavia.....	Clermont County Normal School.....	Coed.....	Susanne M. Kochler.
Berlin Heights.....	Erie County Normal School.....	Coed.....	Ruth Brintnall.
Canal Winchester.....	Franklin County Normal School.....	Coed.....	Dora A. States.
Canfield.....	Mahoning County Normal School.....	Coed.....	Eliza M. Allison.
Chardon.....	County Normal School.....	Coed.....	Mrs. Katherine Wren.
Chillicothe.....	Ross County Normal School.....	Coed.....	Pearl Geeting.
Circleville.....	Pickaway County Normal School.....	Coed.....	Laura Mengert.
Cleveland.....	Cleveland School of Education.....	Women.....	Ambrose L. Suhrie, dean.
Columbus.....	Columbus Normal School.....	Women.....	W. T. Hellman, acting.
Dayton.....	Dayton Normal School.....	Women.....	Grace A. Greene.
Dresden.....	Muskingum County Normal School.	Coed.....	Gertrude Bartlett.
Edison.....	Morrow County Normal School.....	Coed.....	Margaret E. Tipton.
Hebron.....	Licking County Normal School.....	Coed.....	Bettie M. Tracy.
Kingsville.....	Ashtabula County Normal School.....	Coed.....	Jessie L. Hickok.
Lancaster.....	Fairfield County Normal School.....	Coed.....	Eva Richardson.
Lima.....	City Normal School.....	Coed.....	Ilo Maddux.
Lisbon.....	Columbiana County Normal School.	Coed.....	Fronia Isley.
Minerva.....	Minerva County Normal School.....	Coed.....	L. Ethel Spray.
Monroeville.....	Huron County Normal School.....	Coed.....	Bertha A. Lively.
New Lexington.....	Perry County Normal School.....	Coed.....	Margaret Nesbitt.
New Philadelphia.....	Tuscarawas County Normal School.....	Coed.....	Maude A. Bond.
New Vienna.....	Clinton-Highland County Normal School.	Coed.....	Mary B. Hoskins.
Oak Harbor.....	Ottawa County Normal School.....	Coed.....	Elizabeth J. Offerman.

<sup>1</sup> For colored persons.

XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS—*Con.*II. PRINCIPALS OF NORMAL TRAINING SCHOOLS—*continued.*1. *Public Normal Schools—Continued.*

Location.	Name of institution.	For men, for women, or coedu- cational.	Principal.
<b>OHIO—continued.</b>			
Ottawa.....	Putnam County Normal School.....	Coed.....	Ruth C. Frey.
Richwood.....	Union County Normal School.....	Coed.....	Daisy Irene Herrold.
Selo.....	Harrison County Normal School.....	Coed.....	Elizabeth W. Chandler.
Toledo.....	Toledo Teacher Training School.....	Women.....	Elbert E. Day.
Wapakoneta.....	Auglaize County Normal School.....	Coed.....	Olive M. Eggleston.
West Jefferson.....	Madison County Normal School.....	Coed.....	Kathleen Zilt.
West Lafayette.....	Coshocton County Normal School.....	Coed.....	Winnifred C. Jones.
West Liberty.....	Logan County Normal School.....	Coed.....	H. W. Haycross.
West Milton.....	Miami County Normal School.....	Coed.....	Helen Bradley.
Wheelsburg.....	Scioto County Normal School.....	Coed.....	Abigail Bristow.
Zanesville.....	City Normal School.....	Coed.....	F. E. Swingle.
<b>OREGON.</b>			
Monmouth.....	State Normal School.....	Coed.....	J. L. Landers.
<b>PENNSYLVANIA.</b>			
Bloomsburg.....	State Normal School.....	Coed.....	C. H. Fisher.
California.....	Southwestern State Normal School.....	Coed.....	John A. Entz.
Cheyney.....	Cheyney State Normal School <sup>1</sup> .....	Coed.....	Leslie Finckney Hill.
Clarion.....	State Normal School.....	Coed.....	Clyde C. Green.
East Stroudsburg.....	do.....	Coed.....	Frank E. Baker.
Edinboro.....	do.....	Coed.....	A. G. Crane.
Indiana.....	State Normal School.....	Coed.....	John A. H. Keith.
Kutztown.....	Keystone State Normal School.....	Coed.....	A. C. Rothermel.
Lock Haven.....	Central State Normal School.....	Coed.....	Warren Nevin Drum.
Mansfield.....	State Normal School.....	Coed.....	William R. Straughn.
Millersville.....	do.....	Coed.....	C. H. Gordinier.
Philadelphia.....	Philadelphia Normal School.....	Coed.....	J. Eugene Baker.
Pittsburgh.....	Training School for Teachers.....	Women.....	H. B. Davis.
Shippensburg.....	Cumberland Valley State Normal School.....	Coed.....	Ezra Lehman.
Slippery Rock.....	State Normal School.....	Coed.....	J. Linwood Eisenberg.
West Chester.....	do.....	Coed.....	Andrew Thomas Smith.
<b>SOUTH CAROLINA.</b>			
Marion.....	Marion County Training School <sup>1</sup> .....	Coed.....	John P. Burgess.
Summerville.....	Dorchester County Training School <sup>1</sup> .....	Coed.....	Mrs. Grace M. Ashe.
<b>SOUTH DAKOTA.</b>			
Madison.....	Eastern State Normal School.....	Coed.....	E. C. Higbie.
Spearfish.....	State Normal School.....	Coed.....	E. C. Woodburn.
Springfield.....	Southern State Normal School.....	Coed.....	C. G. Lawrence.
<b>TENNESSEE.</b>			
Denmark.....	Madison County Training School <sup>1</sup> .....	Coed.....	H. L. L. Moss.
Johnson City.....	East Tennessee State Normal School.....	Coed.....	Sidney G. Gilbreath.
Lebanon.....	Wilson County Training School <sup>1</sup> .....	Coed.....	J. R. McDaniel.
Lucy.....	Shelby County Training School <sup>1</sup> .....	Coed.....	T. J. Johnson.
Murfreesboro.....	Middle Tennessee State Normal School.....	Coed.....	E. L. Jones.
Nashville.....	State Agricultural and Industrial Normal School <sup>1</sup> .....	Coed.....	W. J. Hale.
Normal (Memphis)....	West Tennessee State Normal School.....	Coed.....	Andrew A. Kincannon.
<b>TEXAS.</b>			
Hallettsville.....	Lavaca County Training School <sup>1</sup> .....	Coed.....	P. S. Stevens.
<b>VERMONT.</b>			
Castleton.....	State Teachers' Normal School.....	Coed.....	Caroline S. Woodruff.

<sup>1</sup> For colored persons.

## XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS—Con.

## II. PRINCIPALS OF NORMAL TRAINING SCHOOLS—continued.

## 1. Public Normal Schools—Continued.

Location.	Name of institution.	For men, for women, or coedu- cational.	Principal.
<b>VIRGINIA.</b>			
Blackstone.....	Nottoway County Training School. <sup>1</sup>	Coed.....	J. M. Botts.
Charlottesville.....	Albemarle County Training School. <sup>1</sup>	Coed.....	J. G. Shelton.
North Emporia.....	Greensville County Training School. <sup>1</sup>	Coed.....	J. H. Wallen.
Petersburg.....	Virginia Normal and Industrial Institute. <sup>1</sup>	Coed.....	John Manuel Gandy.
Richmond.....	City Normal Training School.....	Women.....	W. D. Ellis.
Ruthville.....	Charles City County Training School. <sup>1</sup>	Coed.....	H. E. Logan.
Syringa.....	Middlesex County Training School. <sup>1</sup>	Coed.....	J. Henry St. Clare Walker.
Waverly.....	Sussex County Training School. <sup>1</sup>	Coed.....	Wm. E. Knox.
Yorktown.....	York County Training School. <sup>1</sup>	Coed.....	Chas. E. Brown.
<b>WASHINGTON.</b>			
Bellingham.....	State Normal School.....	Coed.....	
Centralia.....	do.....	Coed.....	Alexander C. Roberts.
Cheney.....	do.....	Coed.....	N. D. Showalter.
Ellensburg.....	Washington State Normal School.....	Coed.....	George H. Black.
<b>WEST VIRGINIA.</b>			
Athens.....	Concord State Normal School.....	Coed.....	C. C. Rossey.
Bluefield.....	Bluefield Colored Institute. <sup>1</sup>	Coed.....	R. P. Sims.
Fairmont.....	State Normal School.....	Coed.....	Joseph Rosier.
Glenville.....	do.....	Coed.....	E. G. Rohrbough.
Shepherdstown.....	Shepherd College, State Normal School.....	Coed.....	W. H. S. White.
West Liberty.....	State Normal School.....	Coed.....	Howard J. McGinnis.
<b>WISCONSIN.</b>			
Algoma.....	Door-Kewaunee County Training School.....	Coed.....	E. J. Young.
Alma.....	Buffalo County Training School for Teachers.....	Coed.....	Rose K. Brandt.
Antigo.....	Lanade County Training School.....	Coed.....	J. H. Lasher.
Ashland.....	Ashland County Training School.....	Coed.....	J. M. Lorscheter.
Berlin.....	Green Lake County Training School.....	Coed.....	J. F. Cavanaugh.
Columbus.....	Columbia County Training School.....	Coed.....	M. C. Palmer.
Eau Claire.....	Eau Claire County Training School.....	Coed.....	F. E. Jaastad.
Do.....	State Normal School.....	Coed.....	H. A. Schofield.
Janesville.....	Rock County Training School for Teachers.....	Coed.....	F. J. Lowth.
Kaukauna.....	Outagamie County Training School.....	Coed.....	W. P. Hagman.
La Crosse.....	State Normal School.....	Coed.....	Fassett A. Cotton.
Ladysmith.....	Rusk County Training School.....	Coed.....	B. M. Dresden.
Manitowoc.....	Manitowoc County Teachers' Training School.....	Coed.....	Fred Christiansen.
Marinette.....	Stephenson Training School.....	Coed.....	W. E. Morton, superintendent.
Medford.....	Taylor County Training School.....	Coed.....	J. H. Wheelock.
Menomonie.....	Dunn County Training School for Teachers.....	Coed.....	G. L. Bowman.
Merrill.....	Lincoln County Training School for Teachers.....	Coed.....	E. W. McCrary.
Milwaukee.....	State Normal School.....	Coed.....	Carroll G. Pearce.
Monroe.....	Green County Training School.....	Coed.....	C. H. Dietz.
New Lisbon.....	Juneau County Teachers' Training School.....	Coed.....	C. W. McNowen.
New London.....	Waupaca County Training School for Teachers.....	Coed.....	Ellis N. Calef.
Oshkosh.....	State Normal School.....	Coed.....	H. A. Brown.
Phillips.....	Price County Training School.....	Coed.....	William Milne.
Platteville.....	State Normal School.....	Coed.....	Asa M. Royce.
Reedsburg.....	Sauk County Training School.....	Coed.....	Ellen B. McDonald.
Rhinelander.....	Oneida County Training School.....	Coed.....	M. V. Beyce.

<sup>1</sup> For colored persons.

## XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS—Con.

## II. PRINCIPALS OF NORMAL TRAINING SCHOOLS—continued.

## 1. Public Normal Schools—Continued.

Location.	Name of institution.	for men, for women, or coedu- cational.	Principal.
WISCONSIN—contd.			
Rice Lake.....	Barron County Training School for Teachers.	Coed.....	L. P. Bunker.
Richland Center.....	Richland County Training School.	Coed.....	L. C. Johnson.
River Falls.....	State Normal School.	Coed.....	J. H. Ames.
St. Croix Falls.....	Polk County Training School.	Coed.....	C. L. Hill.
Stevens Point.....	State Normal School.	Coed.....	John F. Sims.
Superior.....	do.	Coed.....	V. E. McCaskill.
Union Grove.....	Racine-Kenosha Joint County Training School for Teachers.	Coed.....	Arthur J. Smith.
Viroqua.....	Vernon County Normal Training School.	Coed.....	A. W. Zellmer.
Wausau.....	Marathon County Training School	Coed.....	D. A. Swarts.
Wautoma.....	Waushara County Training School	Coed.....	E. J. Fitzpatrick.
Whitewater.....	State Normal School.	Coed.....	F. S. Hyer.
Wisconsin Rapids.....	Wood County Teachers' Training School.	Coed.....	M. H. Jackson.

## 2. Private Normal Schools.

Tuskegee, Ala.....	Tuskegee Normal and Industrial Institute. <sup>1</sup>	Coed.....	Robert R. Moton.
Denver, Colo.....	Denver Normal and Preparatory School.	Coed.....	M. F. Miller.
New Haven, Conn.....	New Haven Normal School of Gymnastics.	Coed.....	E. Hermann Arnold.
Rexburg, Idaho.....	Ricks Normal College.	Coed.....	Geo. S. Romney.
Chicago, Ill.....	American College of Physical Edu- cation.	Coed.....	M. A. Wood.
Do.....	Chicago Normal School of Physical Education.	Women.....	Frances Musselman.
Do.....	Columbia Normal School of Phys- ical Education.	Women.....	Mary A. Blood.
Oak Park, Ill.....	Concordia Teachers' College.	Men.....	W. C. Kohn.
Indianapolis, Ind.....	Normal College of the American Gymnastic Union.	Coed.....	Emil Rath.
Waverly, Iowa.....	Wartburg Normal College.	Coed.....	Aug. Engelbrecht.
Lexington, Ky.....	Chandler Normal School.	Coed.....	Frederic J. Werking.
Louisa, Ky.....	Kentucky Normal College.	Coed.....	Walter M. Byington.
Ammendale, Md.....	Ammendale Normal Institute.	Men.....	Brother Philip.
Boston, Mass.....	Boston School of Physical Educa- tion.	Women.....	M. Sanderson.
Do.....	Posse Normal School of Gymnas- tics.	Women.....	Hartvig Nissen.
Do.....	Bloyd Training School for Teachers	Coed.....	Josif Sandberg.
Cambridge, Mass.....	Sargent School for Physical Edu- cation.	Women.....	Dudley A. Sargent.
Battle Creek, Mich.....	Normal School of Physical Educa- tion.	Women.....	Linda M. Roth.
Madison, Minn.....	Lutheran Normal School.	Coed.....	E. R. Rorem.
New Ulm, Minn.....	Dr. Martin Luther College.	Coed.....	E. R. Bliefernicht.
Seward, Nebr.....	The Lutheran Seminary.	Coed.....	F. W. C. Jesse.
Newark, N. J.....	Newark Normal School of Physical Education and Hygiene.	Coed.....	Henry Panzer.
New York, N. Y.....	Chalf Russian Normal School of Dancing.	Coed.....	Louis H. Chalf.
Do.....	Savage School for Physical Edu- cation.	Coed.....	Watson L. Savage.
Raleigh, N. C.....	St. Augustine's School. <sup>1</sup>	Coed.....	Rev. E. H. Gould.
Maria Stein, Ohio.....	Normal School of the Precious Blood.	Women.....	Sister M. Angeline.
New Lexington, Ohio.....	St. Aloysius Academy Normal School.	Women.....	Mother M. Leonie.
Urbana, Ohio.....	Curry Normal and Industrial Institute. <sup>1</sup>	Coed.....	E. W. B. Curry.
Mount Angel, Oreg.....	Mount Angel Normal School.	Women.....	S. M. Rose.
Oswego, Oreg.....	Marylhurst Normal School.	Women.....	Mother Alphonsus Mary.
Philadelphia, Pa.....	Gratz College.	Coed.....	Rev. Henry M. Spinks.

<sup>1</sup> For colored persons.

## XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS—CON.

## II. PRINCIPALS OF NORMAL TRAINING SCHOOLS—continued.

## 2. Private Normal Schools—Continued.

Location.	Name of institution.	For men, for women, or coedu- cational.	Principal.
Charleston, S. C.....	Avery Normal Institute <sup>1</sup> .....	Coed.....	B. F. Cox.
Do.....	Wallingford Academy.....	Coed.....	W. T. Frasier.
Sioux Falls, S. Dak.....	Augustana College and Normal School.....	Coed.....	Rev. C. O. Solberg.
Martin, Tenn.....	Hall-Moody Normal School.....	Coed.....	James T. Warren.
Memphis, Tenn.....	Le Moyne Normal Institute <sup>1</sup> .....	Coed.....	J. A. Smith (Miss).
Morristown, Tenn.....	Morristown Normal and Indus- trial College. <sup>1</sup> .....	Coed.....	Judson S. Hill.
St. George, Utah.....	Dixie Normal College.....	Coed.....	Joseph K. Nicholes.
Hampton, Va.....	Hampton Normal and Agricul- tural Institute. <sup>1</sup> .....	Coed.....	James E. Gregg.
Seattle, Wash.....	Holy Name Normal School.....	Women.....	Sister M. Dolorosa.
Spokane, Wash.....	Holy Name Academy and Nor- mal School.....	Women.....	Sister Mary Francis Xavier.
Harpers Ferry, W. Va.....	Storer College <sup>1</sup> .....	Coed.....	Henry T. McDonald.
St. Francis, Wis.....	Pio Nono College.....	Men.....	Rev. Jos. J. Pierron.

<sup>1</sup> For colored persons.

## III. DIRECTORS OF KINDERGARTEN TRAINING IN COLLEGES, NORMAL SCHOOLS, AND IN KINDERGARTEN TRAINING SCHOOLS.

Location.	Name of institution.	Director of kindergarten training.
<b>ALABAMA.</b>		
Tuskegee.....	Tuskegee Normal and Industrial Institute (colored). .....	Mrs. G. K. Logan.
<b>ARIZONA.</b>		
Tempe.....	Tempe Normal School of Arizona.....	Amanda Zeller.
<b>CALIFORNIA.</b>		
Berkeley.....	Barnard Kindergarten Training School.....	Grace Everett Barnard.
Chico.....	State Normal School.....	Marion Barbour.
Fresno.....	do.....	
Los Angeles.....	Southern Branch University of California.....	Ethel B. Waring.
Do.....	Miss Fulmer's School.....	Grace Fulmer.
Pasadena.....	Broad Oaks Kindergarten Training School.....	Ada Mae Brooks.
San Francisco.....	State Normal School.....	Anna Stovall.
San Jose.....	do.....	Isabel O. MacKenzie.
<b>COLORADO.</b>		
Greeley.....	State Normal College.....	Genevieve J. yford.
Gunnison.....	Colorado State Normal School.....	Stella H. Yowell.
<b>CONNECTICUT.</b>		
Bridgeport.....	Bridgeport City Normal School.....	Eileen Stowell.
Do.....	The Fannie A. Smith Kindergarten Train- ing School.....	Fannie A. Smith.
Do.....	Connecticut Froebel Normal School.....	Mary C. Mills.
Hartford.....	Culver-Smith Kindergarten Training School.....	M. Lima Culver and Louise Smith.
New Britain.....	State Normal School.....	May Heath Noyes.
<b>DISTRICT OF COLUMBIA.</b>		
Washington.....	Columbia Kindergarten Training School.....	Sarah K. Lippincott.
Do.....	J. Ormond Wilson Normal School.....	Jane M. McKnew.
Do.....	Myrtilla Miner Normal School (colored).....	Irma A. Craig.
<b>FLORIDA.</b>		
Miami.....	Miami Kindergarten Normal School.....	Kate Colyer.
Tallahassee.....	State College for Women.....	Mabel H. Wheeler.



## XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS—(Con.)

## III. DIRECTORS OF KINDERGARTEN TRAINING IN COLLEGES, NORMAL SCHOOLS, AND IN KINDERGARTEN TRAINING SCHOOLS—continued.

Location.	Name of institution.	Director of kindergarten training.
<b>GEORGIA.</b>		
Atlanta.....	Atlanta University (colored).....	
Columbus.....	Free Kindergarten Association Training School.....	Edwina Wood.
Lagrange.....	Lagrange Settlement Training School.....	Marie Monroe.
Savannah.....	Kate Baldwin Free Kindergarten Association Training School.....	Horbenne M. Orcutt.
Valdosta.....	Southern Georgia State Normal College.....	Georgia Mae Barrett.
<b>HAWAII.</b>		
Honolulu.....	Honolulu Free Kindergarten Training School.....	Frances Lawrence.
<b>ILLINOIS.</b>		
Chicago.....	School of Elementary and Home Education.....	Mrs. Mary Boomer Page.
Do.....	School of Education, Chicago University.....	Alice Temple.
Do.....	National Kindergarten and Elementary College.....	Edna Dean Baker.
Do.....	Pestalozzi-Froebel Teacher's College.....	Mrs. B. H. Hegner.
Normal.....	Illinois State Normal University.....	Marguerite E. Lee.
<b>INDIANA.</b>		
Indianapolis.....	Teachers College of Indianapolis.....	Mrs. Eliza A. Blaker.
Muncie.....	Indiana State Normal School, Eastern Division.....	B. F. Moore.
<b>IOWA.</b>		
Cedar Falls.....	Drake University.....	Irene Hirsch.
Des Moines.....	Iowa State Teachers College.....	Helen James.
<b>KANSAS.</b>		
Emporia.....	State Normal School.....	Achsa N. Harris.
Hays.....	Fort Hays Kansas Normal School.....	Luella McGee.
<b>KENTUCKY.</b>		
Louisville.....	Louisville Normal School.....	Mrs. R. D. Allen.
<b>LOUISIANA.</b>		
New Orleans.....	New Orleans Normal School.....	Frances Randolph.
<b>MARYLAND.</b>		
Baltimore.....	Affordby Kindergarten-Primary Normal School.....	Elizabeth Harrison.
Do.....	Goucher College.....	Stella A. McCarty.
Do.....	Baltimore Teachers' Training School.....	Winifred Weldin.
<b>MASSACHUSETTS.</b>		
Boston.....	Boston Normal School.....	Mary C. Shute.
Do.....	Miss Niel's Kindergarten-Primary Training School.....	Harriet Niel.
Do.....	Perry Kindergarten Normal School.....	Mrs. Harriet H. Jones.
Do.....	Miss Wheelock's Kindergarten Training School.....	Lucy Wheelock.
Bridgewater.....	State Normal School.....	Annie M. Wells.
Cambridge.....	Lesley Normal School.....	Mrs. Edith L. Wolfard.
North Adams.....	State Normal School.....	Mrs. Edna G. Graves.
Salem.....	do.....	E. Vera Knight.
Springfield.....	Springfield Kindergarten Training School.....	Hattie Twichell.
Westfield.....	State Normal School.....	Emma L. Hammond.
Worcester.....	do.....	Sarah A. Marble.
<b>MICHIGAN.</b>		
Big Rapids.....	Ferris Institute.....	
Detroit.....	Detroit Teachers' College.....	Winifred Smith.
Kalamazoo.....	Western Normal School.....	Frances Kern.
Marquette.....	Northern State Normal School.....	H. Susan Bates.
Mount Pleasant.....	Central State Normal School.....	Helen E. Emmons.
Traverse City.....	Michigan State Normal College.....	D. H. Roberts.

## XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS—Con.

## III. DIRECTORS OF KINDERGARTEN TRAINING IN COLLEGES, NORMAL SCHOOLS, AND IN KINDERGARTEN TRAINING SCHOOLS—continued.

Location.	Name of institution.	Director of kindergarten training.
<b>MINNESOTA.</b>		
Duluth.....	State Normal School.....	Helen C. Steele.
Mankato.....	do.....	Martha V. Collins.
Minneapolis.....	Minneapolis Kindergarten Association Normal School.....	Stella Louise Wood.
Moorhead.....	State Normal School.....	Mrs. R. H. Durbaron.
St. Cloud.....	do.....	Beulah Douglass.
Winona.....	do.....	Louise Sutherland.
<b>MISSISSIPPI.</b>		
Columbus.....	Mississippi State College for Women.....	Rosa B. Knox.
Hattiesburg.....	Mississippi Normal College.....	Lottie Hooper.
<b>MISSOURI.</b>		
Cape Girardeau.....	Southeast Missouri State Teachers' College.....	Mrs. Elma Williams Ealy.
Springfield.....	Southwest Missouri State Teachers' College.....	Elizabeth Moss.
St. Louis.....	Wilson Kindergarten-Primary Institute.....	Mabel A. Wilson.
Warrensburg.....	Central Missouri State Teachers' College.....	Julia Scott.
<b>MONTANA.</b>		
Dillon.....	State Normal School.....	Jane Roberts.
<b>NEBRASKA.</b>		
Fremont.....	Midland College.....	Eva E. Mixer.
Kearney.....	State Normal School.....	Agnes Knutsen.
Lincoln.....	University of Nebraska.....	Clara O. Wilson.
Omaha.....	University of Omaha.....	Mary B. Fox.
Peru.....	State Normal School.....	
University Place.....	Nebraska Wesleyan University.....	Mrs. Ella F. Miller.
Wayne.....	State Normal School.....	Alwine Luers.
<b>NEW HAMPSHIRE.</b>		
Keene.....	State Normal School.....	Pauline Mitchell.
<b>NEW JERSEY.</b>		
Montclair.....	State Normal School.....	Nora Atwood.
Newark.....	do.....	Harriet P. Carpenter.
Paterson.....	Normal Training School.....	Marguerite Houston.
Trenton.....	State Normal School.....	Edna V. Hughes.
East Orange.....	Miss Peet's Kindergarten Training School.....	Cora Webb Peet.
<b>NEW YORK.</b>		
Buffalo.....	Teachers' Training School.....	Louise M. Cassedy.
Do.....	State Normal School.....	Bertha L. Hill.
Cortland.....	State Normal and Training School.....	Anne S. Blake.
Geneseo.....	State Normal School.....	Amy Quakenbush.
Herkimer.....	Folts Mission Institute.....	Anna E. Harvey.
New York (Brooklyn).....	Department of Education, Adelphi College.....	Ruth E. Tappan.
Do.....	Training School for Teachers.....	Harriet M. Mills.
New York.....	Harriet M. Mills Kindergarten Training School.....	
Do.....	Ethical Culture School.....	Jessica E. Beers.
Do.....	Hunter College of the City of New York.....	Marie Bell Coles.
Do.....	Jenny Hunter Kindergarten Training School.....	Jenny Hunter.
Do.....	New York Training School for Teachers.....	M. Blanche Bosworth.
Do.....	Teachers' College, Columbia University.....	Patty S. Hill.
Do.....	Training School of the Froebel League.....	Mrs. Marion B. B. Langstetel.
Oneonta.....	State Normal School.....	Jessie Scott Himes.
Oswego.....	do.....	Elizabeth G. Holmes.
Rochester.....	City Normal School.....	Mary Jean Miller.
Schenectady.....	Teachers' Training School.....	Lillian Goetz.
Syracuse.....	Training School for Teachers.....	Maude C. Stewart.
<b>NORTH CAROLINA.</b>		
Raleigh.....	St. Augustine's School (colored).....	Martha Hyde.
<b>NORTH DAKOTA.</b>		
Bottineau.....	Forestry State Normal School.....	Catherine M. Hart.
Valley City.....	State Normal School.....	Emma Flinn.

## XV.—PRESIDENTS, ETC., OF INSTITUTIONS FOR THE TRAINING OF TEACHERS—Con.

## III. DIRECTORS OF KINDERGARTEN TRAINING IN COLLEGES, NORMAL SCHOOLS, AND IN KINDERGARTEN TRAINING SCHOOLS—continued.

Location.	Name of Institution.	Director of kindergarten training.
<b>OHIO.</b>		
Akron.....	Perkins Normal School.....	Helen Evans.
Athens.....	Ohio University.....	Constance T. McLeod.
Cincinnati.....	Cincinnati Association Kindergarten Training School.....	Lillian H. Stone.
Do.....	Cincinnati Missionary Training School.....	Lottie N. Sinnett.
Cleveland.....	Cleveland Kindergarten Training School.....	Netta Farla.
Do.....	Cleveland Normal School.....	Grace L. Brown.
Columbus.....	Columbus Normal School.....	Elizabeth Samuel.
Dayton.....	Dayton Normal School.....	Anna Littell.
Kent.....	State Normal School.....	John E. McGilvery.
Oberlin.....	Oberlin Kindergarten Training School.....	Clara May.
Toledo.....	Law Froebel Kindergarten Training School.....	Mary E. Law.
<b>OKLAHOMA.</b>		
Ada.....	East Central State Teachers' College.....	Anna Paxton.
Oklahoma City.....	Oklahoma City College.....	Mary E. Harris.
<b>PENNSYLVANIA.</b>		
Clarion.....	State Normal School.....	Lydia Millinger.
East Stroudsburg.....	do.....	Gertrude M. Rogers.
Harrisburg.....	Froebel Kindergarten Training School.....	Evelyn Barrington.
Jenkintown.....	Beechwood School.....	Eula Ableson.
Kutztown.....	State Normal School.....	
Lock Haven.....	Central State Normal School.....	Helen B. Leshner.
Mansfield.....	State Normal School.....	Edna Bond.
Millersville.....	do.....	Annie Gochsauer.
Philadelphia.....	Philadelphia Normal School.....	Mary Adair.
Do.....	Temple University.....	Lucinda P. MacKenzie.
Do.....	Training School for Kindergartners.....	Adelaide T. Ilman.
Pittsburgh.....	Training School for Teachers, Colfax School No. 1.....	H. B. Davis.
Do.....	School of Childhood, University of Pittsburgh.....	
Shippensburg.....	Cumberland Valley State Normal School.....	Mary Rachel Harris.
Slippery Rock.....	State Normal School.....	Mrs. George Hamm.
Westchester.....	do.....	
<b>RHODE ISLAND.</b>		
Providence.....	Rhode Island College of Education.....	Lucile Faith Manatt.
<b>SOUTH CAROLINA.</b>		
Rockhill.....	Winthrop College.....	Minnie Macfeate.
<b>SOUTH DAKOTA.</b>		
Aberdeen.....	Northern Normal and Industrial School.....	Lida M. Williams.
Madison.....	State Normal School.....	Mrs. Anna M. Brady.
Springfield.....	do.....	Lillie S. Cooper.
<b>TEXAS.</b>		
Canyon.....	West Texas State Normal College.....	Edna E. Haines.
Commerce.....	East Texas Normal College.....	Durald Boren.
Denton.....	North Texas State Normal College.....	Evelina Harrington.
Do.....	College of Industrial Arts.....	Mabel M. Osgood.
San Marcus.....	Southwest Texas State Normal College.....	Helen M. Christianson.
<b>UTAH.</b>		
Provo.....	Brigham Young University.....	Ida Smoot Dusenberry.
Salt Lake City.....	University of Utah.....	Rose Jones.
<b>VIRGINIA.</b>		
Farmville.....	State Normal School.....	Mabel L. Culkin.
Harrisonburg.....	do.....	Mary L. Seeger.
<b>WASHINGTON.</b>		
Bellingham.....	State Normal School.....	Gertrude Earhart.
Ellensburg.....	do.....	Clara Meisner.
<b>WISCONSIN.</b>		
Milwaukee.....	State Normal School.....	Louise M. Alder.
Superior.....	do.....	Caroline D. Barbour.

## XVI.—DIRECTORS OF SUMMER SCHOOLS.

## I. UNIVERSITIES, COLLEGES, AND NORMAL SCHOOLS.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
ALABAMA.				
Auburn.....	Alabama Polytechnic Institute.....	Zebulon Judd.....	June 5	Aug. 20
Birmingham.....	Howard College.....	Wm. E. Bohannon.....	June 6	July 15
Centerville.....	Bibb County Training School.....	H. B. Davidson.....	June 6	July 15
Daphne.....	Daphne State Normal School.....	Hillary Herbert Holmes.....	May 15	July 21
Florence.....	State Normal School.....	Henry J. Willingham.....	June 1	Aug. 18
Jacksonville.....	do.....	C. W. Daugeette.....	June 5	Do.
Livingston.....	do.....	G. W. Brock.....	do.....	Do.
Marion.....	Judson College.....	(No summer school, 1921.)	do.....	do.
Montevallo.....	Alabama Technical Institute and College for Women.....	T. W. Palmer.....	June 5	July 18
Montgomery.....	State Normal School (colored).....	G. W. Trenholm.....	do.....	Aug. 5
Do.....	Woman's College of Alabama.....	(No summer school, 1921.)	do.....	do.
Normal.....	State Agricultural and Mechanical Institute (colored).....	J. Henry Alston.....	June 5	July 15
Plateau.....	Mobile County Training School.....	Isalah J. Whitley.....	June 6	Do.
Troy.....	State Normal School.....	E. M. Shackelford.....	June 5	Aug. 18
Tuskegee.....	Tuskegee Normal and Industrial Institute (colored).....	E. C. Roberts.....	June 10	July 24
University.....	University of Alabama.....	James J. Doster.....	June 3	July 15
ARIZONA.				
Flagstaff.....	Northern Arizona Normal School.....	L. B. McMullen.....	June 19	Aug. 25
Tucson.....	University of Arizona.....	Frank Lockwood.....	do.....	do.
		J. O. Creager.....	do.....	do.
		Byron Cummings.....	do.....	do.
ARKANSAS.				
Arkadelphia.....	Ouachita College.....	Charles E. Dicken.....	June 1	Aug. 1
Batesville.....	Arkansas College.....	(No summer school, 1921.)	do.....	do.
Conway.....	Arkansas State Normal School.....	B. W. Torreyson.....	June 13	July 29
Do.....	Hendrix College School for Ministers.....	J. H. Reynolds.....	June 7	June 17
Fayetteville.....	University of Arkansas.....	J. R. Jewell.....	June 19	Aug. 2
Marianna.....	Lee County Training School.....	D. W. Hughes.....	June 1	July 7
CALIFORNIA.				
Arcata.....	Humboldt State Normal School.....	N. B. Van Matre.....	June 19	July 28
Berkeley.....	University of California.....	Walter Morris Hart.....	June 26	Aug. 5
Claremont.....	Pomona College.....	Charles T. Fitts.....	June 20	Aug. 3
Huntington Lake.....	Fresno State Normal School.....	C. L. McLane.....	June 1	Aug. 31
Laguna Beach.....	Pomona College Marine Laboratory.....	W. A. Hilton.....	June 23	Aug. 6
Los Angeles.....	Miss Fulmer's School.....	Grace Fulmer.....	July 5	July 26
Do.....	University of California (Southern Division).....	B. M. Woods.....	July 3	Aug. 12
Do.....	University of Southern California.....	Lester B. Rogers.....	June 25	Aug. 15
Pacific Grove.....	Hopkins Marine Station.....	W. K. Fisher.....	June 22	Sept. 1
St. Helena.....	Pacific Union College.....	W. W. Ruble.....	June 1	July 31
San Diego.....	State Normal School.....	Edward L. Hardy.....	June 26	Sept. 1
San Francisco.....	San Francisco State Teachers College.....	Frederic Burk.....	June 28	Aug. 6
San Jose.....	State Teachers College.....	William W. Kemp.....	do.....	do.
Santa Barbara.....	do.....	C. L. Phelps.....	July 1	Sept. 1
Sisson.....	Chico State Teachers College (Mount Shasta Summer School).....	C. M. Osenbaugh.....	June 20	July 30
Stanford University.....	Leland Stanford Junior University.....	O. L. Elliott.....	do.....	Sept. 2
Swanton.....	Camp California, Summer School of Surveying (University of California).....	Charles Derleth, jr.....	May 18	June 15
COLORADO.				
Boulder.....	University of Colorado.....	Milo G. Durham.....	June 19	Sept. 1
Denver.....	Denver Normal School.....	M. F. Miller.....	June 12	Aug. 17
Do.....	University of Denver.....	W. D. Engle.....	June 19	July 28
Fort Collins.....	Colorado Agricultural College.....	George T. Avery.....	June 12	July 21
Golden.....	Colorado School of Mines.....	Victor C. Alderson.....	July 15	Aug. 31
Greeley.....	Colorado State Teachers College.....	J. G. Crabbe.....	June 19	Aug. 25
Gunnison.....	Colorado State Normal School.....	S. Quigley.....	June 12	Aug. 18
Woodland Park.....	School of Surveying (Colorado College).....	Frank M. Okey.....	June 1	June 30

## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## I. UNIVERSITIES, COLLEGES, AND NORMAL SCHOOLS—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
CONNECTICUT.				
New Haven.....	New Haven Normal School of Gymnastics.	E. H. Arnold.....	July 26	Aug. 30
New Haven (Yale Station).....	State Board of Education School.....	J. Lawrence Meader...	July 5	Aug. 1
DELAWARE.				
Newark.....	University of Delaware.....	W. A. Wilkinson.....	June 26	Aug. 4
DISTRICT OF COLUMBIA.				
Washington.....	American University.....	A. H. Putney.....	June 26	Aug. 30
Do.....	Catholic Sisters College (Catholic University of America).	Patrick J. McCormick.	July 1	Aug. 11
Do.....	George Washington University.....	W. C. Ruediger.....	June 19	Aug. 18
Do.....	National University Law School.....	Charles Carusi.....	June 15	Sept. 25
FLORIDA.				
Gainesville.....	University of Florida.....	A. A. Murphree.....	June 15	Aug. 8
Madison.....	Florida Normal Institute.....	M. S. McGregor.....	June 1	Aug. 1
Tallahassee.....	Florida State College for Women.....	Edward Conradl.....	June 12	Aug. 5
GEORGIA.				
Athens.....	State Normal School.....	T. J. Wooster.....	June 22	Aug. 1
Do.....	University of Georgia.....	do.....	June 20	Aug. 8
Atlanta.....	Georgia School of Technology.....	A. B. Morton.....	July 24	Sept. 14
Do.....	Morehouse College (colored).....	John Hope.....	June 13	July 25
Dahlonega.....	North Georgia Agricultural College.....	(No summer school, 1921).	June 15	Aug. 1
Emory University.....	Emory University.....	Theodore H. Jack.....	June 20	Aug. 31
Macon.....	Mercer University.....	Payton Jacob.....	June 15	Aug. 30
Milledgeville.....	Georgia Normal and Industrial College.....	John W. Good.....	June 14	July 26
Valdosta.....	South Georgia State Normal College.....	E. H. Powell.....	May 31	July 7
IDAHO.				
Albion.....	State Normal School.....	C. E. Bockock.....	June 5	Aug. 4
Lewiston.....	do.....	O. M. Elliott.....	June 15	Aug. 13
Moscow.....	University of Idaho.....	J. F. Messenger.....	do.....	Aug. 16
Pocatello.....	Idaho Technical Institute.....	Charles H. Lewis.....	June 10	Aug. 10
Rexburg.....	Ricks Normal College.....	Hyrum Manwaring.....	do.....	Aug. 15
ILLINOIS.				
Carbondale.....	Southern Illinois State Normal University.....	H. W. Shyrock.....	June 21	Sept. 1
Carthage.....	Carthage College.....	H. D. Hoover.....	June 12	July 28
Charleston.....	Eastern Illinois State Teachers' College.....	Livingston C. Lord.....	do.....	Sept. 1
Chicago.....	American College of Physical Education.....	M. A. Wood.....	June 27	Aug. 5
Do.....	Armour Institute of Technology.....	H. M. Raymond.....	June 26	Aug. 4
Do.....	Chicago Normal College.....	William B. Owen.....	July 1	Aug. 1
Do.....	Chicago Normal School of Physical Education.....	Frances Musselman.....	June 28	July 5
Do.....	Columbia Normal School of Physical Education.....	Mary A. Blood.....	June 21	Aug. 4
Do.....	De Paul University.....	D. A. Duggan.....	June 26	Do.
Do.....	Lewis Institute.....	George N. Carman.....	July 3	Aug. 25
Do.....	Loyola University.....	Frederic Siedenburg.....	July 1	Aug. 15
Do.....	National Kindergarten and Elementary College.....	Edna Dean Baker.....	June 12	Aug. 11
Do.....	Pestalozzi-Froebel Teachers' College.....	Bertha Hofer Hogner.....	June 20	Aug. 1
Do.....	School of Elementary and Home Education.....	Mary Boomer Page.....	July 1	July 31
Do.....	University of Chicago.....	Harry Pratt Judson.....	June 18	Sept. 1
De Kalb.....	Northern Illinois State Teachers' College.....	J. Stanley Brown.....	June 5	Aug. 25
Evanston.....	Garrett Biblical Institute.....	Charles Macanlay Stuart.....	June 19	Sept. 1
Do.....	Northwestern University.....	C. S. Marsh.....	June 26	Aug. 19
Ewing.....	Ewing College.....	H. A. Smoot.....	May 29	Do.

## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## I. UNIVERSITIES, COLLEGES, AND NORMAL SCHOOLS—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
ILLINOIS—contd.				
Lake Forest.....	Lake Forest University School of Music.	Marta Millnowski.....	June 25	Sept. 1
Lebanon.....	McKendree College.	William C. Walton.....	June 19	Aug. 11
Macomb.....	Western Illinois State Normal School.	W. P. Morgan.....	June 12	July 21
Normal.....	Illinois State Normal University.	David Feimley.....	do.	Aug. 31
Peoria.....	Bradley Polytechnic Institute.	Albert F. Siepert....	June 19	July 22
River Forest.....	Concordia Teachers' College.	(No summer school, 1921.)	July 1	Aug. 10
Rock Island.....	Augustana College and Theological Seminary.	Gustav Andreen.....	June 15	July 15
Urbana.....	University of Illinois.	Charles E. Chadsey...	June 19	Aug. 12
Wheaton.....	Wheaton College.	W. F. Rice.....	do.	Aug. 11
INDIANA.				
Angola.....	Tri-State College.	L. M. Sniff.....	June 6	Sept. 6
Bloomington.....	Indiana University.....	Henry Lester Smith...	June 8	Aug. 18
Danville.....	Central Normal College.	Jonathan Rigdon.....	May 29	Sept. 1
Evansville.....	Evansville College.	Charles E. Torbet....	May 8	Sept. 1
Fort Wayne.....	Fort Wayne Normal School.	Flora Wilber.....	do.	do.
Franklin.....	Franklin College.	H. N. Sherwood.....	Apr. 13	Aug. 4
Goshen.....	Goshen College.	C. B. Blosser.....	June 19	Sept. 1
Greencastle.....	De Pauw University.	John L. Beyl.....	June 5	Sept. 5
Hanover.....	Hanover College.	Clem O. Thompson....	June 10	Aug. 25
Indianapolis.....	Butler College.	J. W. Putnam.....	June 20	Aug. 13
Do.....	Indiana Central University.	Horace W. Marshall...	May 22	Aug. 11
Do.....	Indiana University School of Medicine.	Charles P. Emerson...	June 15	Aug. 15
Do.....	North American Gymnastic Union, Normal School.	Emil Rath.....	June 30	July 31
Do.....	Teachers' College of Indianapolis.	Eliza A. Blaker.....	Mar. 13	Aug. 31
Lafayette.....	Purdue University.	George L. Roberts.....	June 11	Aug. 12
Muncie.....	Indiana State Normal School (Eastern Division).	Thomas J. Breitwieser.	June 19	Sept. 1
Notre Dame.....	St. Mary's College and Academy.....	Sister M. Frances Ines.	July 1	Aug. 5
Do.....	University of Notre Dame.	Joseph Burke.....	June 28	Aug. 6
Oakland City.....	Oakland City College.	W. P. Dearing.....	June 5	Aug. 25
Terre Haute.....	Indiana State Normal School.	W. W. Parsons.....	June 15	Aug. 30
Valparaiso.....	Valparaiso University.	John E. Roessler.....	May 30	Aug. 18
Vincennes.....	Vincennes University.	William Hamon.....	May 8	Sept. 1
Winona Lake.....	Winona Normal School.	G. C. Brandenburg....	June 1	Aug. 31
IOWA.				
Ames.....	Iowa State College of Agriculture and Mechanic Arts.	G. M. Wilson.....	June 10	Aug. 25
Cedar Falls.....	Iowa State Teachers' College.	W. S. Newell.....	June 19	Aug. 26
Cedar Rapids.....	Coe College.	C. E. Germane.....	June 16	Aug. 21
Des Moines.....	Des Moines University.	A. Holmes.....	June 12	Aug. 21
Do.....	Drake University.	John C. Stuart.....	June 28	Aug. 6
Dubuque.....	Columbia College.	Sister Mary Antonia..	June 27	Do.
Do.....	Mount St. Joseph College.	Howard McDonald.....	June 12	Aug. 19
Fairfield.....	Parsons College.	J. W. Dickman.....	do.	Do.
Fayette.....	Upper Iowa University.	J. P. McCoy.....	June 5	Aug. 20
Indianola.....	Simpson College.	C. H. Weller.....	June 12	Aug. 25
Iowa City.....	University of Iowa.	Ida Franklin Meyer....	do.	Aug. 19
Iowa Falls.....	Ellsworth College.	H. E. Jaques.....	June 12	Aug. 19
Mount Pleasant.....	Iowa Wesleyan College.	Charles W. Flint.....	do.	Aug. 12
Mount Vernon.....	Cornell College.	F. C. Stanley.....	do.	Aug. 19
Oskaloosa.....	Penn College.	(No summer school, 1921.)	June 19	Sept. 4
Pella.....	Central College.	Frank E. Mossman....	June 12	Aug. 18
Sioux City.....	Morningside College.			
KANSAS.				
Atchison.....	St. Benedict's College.....	M. Veth.....	July 1	Aug. 31
Baldwin.....	Baker University.	C. S. Parmenter.....	June 8	July 20
Emporia.....	Kansas State Normal School.	Norman Triplett.....	June 1	July 30
Hays.....	Fort Hays Kansas Normal School.	W. A. Lewis.....	May 31	July 28
Kansas City.....	Kansas City University.	W. A. Reese.....	June 12	July 24
Lawrence.....	University of Kansas.	W. H. Johnson.....	do.	Aug. 18
Lindsborg.....	Bethany College.	Ernst F. Pihlblad....	June 5	Aug. 5
McPherson.....	McPherson College.	J. A. Blair.....	June 1	July 10
Mannhattan.....	Kansas State Agricultural College.	Edwin L. Holton.....	June 2	Aug. 4

## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## I. UNIVERSITIES, COLLEGES, AND NORMAL SCHOOLS—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
Newton.....	Bethel College.....	(No summer school, 1921.)	June 5	July 14
Pittsburg.....	State Manual Training Normal School.	W. A. Brandenburg...	May 31	Aug. 25
Sallina.....	Kansas Wesleyan University.....	A. H. King.....	June 4	July 31
Topeka.....	Washburn College.....	D. L. McEachron.....	June 12	July 22
Wichita.....	Fairmount College.....	F. A. Neff.....	June 2	July 26
Wingfield.....	Southwestern College.....	Mark Ewald.....	June 1	Aug. 1
<b>KENTUCKY.</b>				
Berea.....	Berea College.....	Cloyd N. McAllister...	June 19	Aug. 27
Bowling Green.....	Western Kentucky State Normal School.	H. H. Cherry.....	June 20	Aug. 17
Frankfort.....	Kentucky Normal and Industrial Institute (colored).	G. P. Russell.....	June 14	Aug. 15
Lexington.....	University of Kentucky.....	George M. Baker.....	June 20	Aug. 1
Richmond.....	Eastern Kentucky State Normal School.	T. J. Coates.....	June 26	Aug. 18
Winchester.....	Kentucky Wesleyan College.....	(No summer school, 1921.)	June 1	Aug. 15
<b>LOUISIANA.</b>				
Baton Rouge.....	Louisiana State University.....	Delmar T. Powers.....	June 14	July 26
Franklinton.....	Washington Parish Training School.....	B. P. Smith.....	June 20	July 12
Natchitoches.....	Louisiana State Normal School.....	V. L. Roy.....	June 1	Aug. 8
New Orleans.....	Loyola University.....	Francis X. Twellmeyer.	June 15	July 27
Do.....	Tulane University of Louisiana.....	A. B. Dinwiddie.....	June 12	July 22
Do.....	Tulane University, School of Medicine.	do.....	June 15	Aug. 15
Pineville.....	Louisiana College.....	C. Cottingham.....	do.....	Aug. 20
Shreveport.....	Centenary College.....	George S. Sexton.....	June 8	Aug. 10
<b>MAINE.</b>				
Castine.....	Eastern State Normal School.....	William D. Hall.....	July 19	Aug. 31
Farmington.....	State Normal School.....	W. G. Mallett.....	June 26	Aug. 4
Fort Kent.....	Madawaska Training School.....	do.....	do.....	Aug. 4
Gorham.....	Western State Normal School.....	W. E. Russell.....	June 26	Aug. 4
Lewiston.....	Bates College.....	Robert A. F. McDonald.	July 8	Do.
Machias.....	Washington State Normal School.....	William L. Powers.....	July 6	Aug. 12
Orono.....	University of Maine.....	James S. Stevens.....	June 23	Aug. 4
Presque Isle.....	Aroostook State Normal School.....	San Lorenzo Merriman	July 18	Aug. 25
<b>MARYLAND.</b>				
Annapolis.....	St. John's College.....	S. S. Handy.....	June 20	Aug. 2
Baltimore.....	Baltimore Training School for Teachers (colored).	Norman W. Cameron.....	July 5	Aug. 12
Do.....	Johns Hopkins University.....	Edward F. Buchner.....	do.....	Aug. 11
Do.....	Morgan College (colored).....	Norman W. Cameron.....	do.....	Aug. 12
Do.....	Notre Dame College of Maryland.....	Sister M. Philemon.....	July 6	Aug. 13
Bowie.....	Maryland Normal and Industrial School (colored).	D. S. S. Goodloe.....	June 15	July 29
College Park.....	University of Maryland.....	H. F. Cotterman.....	June 19	July 26
Ellicott City.....	Rock Hill College.....	Brother E. Alban.....	June 26	Aug. 26
Frostburg.....	Maryland State Normal School.....	James Widdowson.....	July 5	Aug. 19
Towson.....	do.....	Lida Lee Tall.....	do.....	Aug. 13
<b>MASSACHUSETTS.</b>				
Amherst.....	Massachusetts Agricultural College.....	John Phelan.....	July 1	Aug. 1
Boston.....	Boston University.....	A. H. Rice.....	July 5	Aug. 19
Do.....	Harvard Graduate School of Medicine.....	David L. Edsall.....	June 1	Sept. 30
Do.....	Northeastern College.....	Carl S. Ell.....	July 10	Sept. 8
Do.....	Posse Normal School of Gymnastics.....	Hartvig Nissen.....	July 5	Aug. 12
Do.....	Simmons College.....	Henry Lafavour.....	do.....	Do.
Cambridge.....	Howard School of Arts and Sciences.....	J. Tucker Murray.....	do.....	Do.
Do.....	Harvard School of Physical Education.....	William H. Geer.....	July 5	Aug. 12
Do.....	Massachusetts Institute of Technology.	C. F. Park.....	June 15	Sept. 30
Fitchburg.....	State Normal School.....	William D. Parkinson.....	July 10	Aug. 31
Frammingham.....	do.....	W. H. D. Meier.....	July 17	Aug. 4
Hyannis.....	do.....	W. A. Baldwin.....	July 5	Aug. 30
Newton Center.....	Newton Theological Institution.....	George E. How.....	June 12	June 24

## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## I. UNIVERSITIES, COLLEGES, AND NORMAL SCHOOLS—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
MASSACHUSETTS—continued.				
Northampton.....	Smith College Training School for Social Workers.	F. Stuart Chapin.....	July 4	Aug. 29
Tufts College.....	Tufts College.....	John A. Pousens.....	July 1	Aug. 31
Woods Hole.....	Marine Biological Laboratory.....	Frank R. Lillie.....	June 28	Aug. 8
Worcester.....	Clark University.....	Wallace W. Atwood.....	July 5	Aug. 12
MICHIGAN.				
Ann Arbor.....	University of Michigan.....	Edward H. Kraus.....	June 20	Aug. 25
Battle Creek.....	Normal School of Physical Education.	Linda M. Roth.....	July 6	Aug. 17
Berrien Springs.....	Emmanuel Missionary College.....	Frederick Griggs.....	June 1	Aug. 26
Detroit.....	Detroit Teachers College.....	L. J. Boneckner.....	June 24	Aug. 4
East Lansing.....	Michigan Agricultural College.....	E. H. Ryder.....	June 26	Aug. 5
Houghton.....	Michigan College of Mines.....	F. W. McNair.....	June 10	Sept. 10
Kalamazoo.....	Western State Normal School.....	D. B. Waldo.....	June 26	Aug. 4
Marquette.....	Northern State Normal School.....	James H. B. Kaye.....	.....do.....	Do.
Mount Pleasant.....	Central State Normal School.....	E. C. Warriner.....	.....do.....	Do.
Topinabee.....	University of Michigan Biological Station.	George R. La Rue.....	July 1	Aug. 23
Ypsilanti.....	Michigan State Normal College.....	Charles McKenny.....	June 26	Aug. 4
MINNESOTA.				
Berndtj.....	State Teachers College.....	M. W. Deputy.....	June 15	July 25
Duluth.....	.....do.....	E. W. Bohannon.....	June 19	July 28
Mankato.....	.....do.....	Charles H. Cooper.....	June 12	July 21
Minneapolis.....	University of Minnesota.....	J. J. Pettijohn.....	June 19	July 28
Moorhead.....	State Teachers College.....	O. M. Dickerson.....	.....do.....	July 29
St. Cloud.....	.....do.....	J. C. Brown.....	June 20	Do.
St. Paul.....	College of St. Catherine.....	Sister Antonia.....	July 1	Aug. 6
Do.....	Hamline University.....	Albert Z. Mann.....	June 15	July 30
Winona.....	College of St. Teresa.....	Mary A. Molloy.....	June 30	Aug. 11
Do.....	State Teachers College.....	G. E. Maxwell.....	June 12	July 12
MISSISSIPPI.				
Blue Mountain.....	Blue Mountain College.....	(No summer school, 1921)	June 1	Aug. 3
Clinton.....	Mississippi College.....	J. W. Province.....	June 5	July 8
Hattiesburg.....	Mississippi Normal College.....	Joe Cook.....	May 29	July 7
Jackson.....	Millsaps College.....	George L. Harrell.....	June 15	Aug. 1
Meridian.....	State Normal School, Meridian College.	W. C. Williams.....	June 20	Do.
University.....	University of Mississippi.....	Christopher Longest.....	June 5	
MISSOURI.				
Cameron.....	Missouri Wesleyan College.....	Emily S. Dexter.....	June 5	July 29
Cape Girardeau.....	Southeast Missouri State Teachers College.	W. S. Dearmont.....	May 29	Aug. 4
Columbia.....	University of Missouri.....	A. Ross Hill.....	June 22	Aug. 17
Fayette.....	Central College.....	E. P. Puckett.....	June 5	July 31
Jefferson City.....	Lincoln University (colored).....	C. Richardson.....	.....do.....	Do.
Kirksville.....	State Teachers College.....	John R. Kirk.....	May 29	Aug. 4
La Grange.....	La Grange College.....	John W. Crouch.....	June 5	Aug. 5
Marshall.....	Missouri Valley College.....	I. N. Evrard.....	June 4	Aug. 10
Maryville.....	Northwest Missouri State Teachers' College.	Ira Richardson.....	May 29	Aug. 4
Rolla.....	State School of Mines and Metallurgy	Charles H. Fulton.....	June 1	Aug. 15
St. Louis.....	Forest Park College.....	Anna Sneed Cairns.....	.....do.....	July 16
Do.....	Harris Teachers' College.....	E. George Payne.....	June 19	July 22
Do.....	St. Louis University.....	M. J. O'Connor.....	June 25	Aug. 3
Springfield.....	Southwest Missouri State Teachers' College.	Clyde M. Hill.....	June 1	Aug. 4
Warrensburg.....	Central Missouri State Teachers' College	F. L. Hendricks.....	.....do.....	Aug. 6
Warrenton.....	Central Wesleyan College.....	H. Noshall.....	June 12	Aug. 5



## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## I. UNIVERSITIES, COLLEGES, AND NORMAL SCHOOLS—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
MONTANA.				
Bozeman.....	Montana College of Agriculture and Mechanic Arts.	W. F. Brewer.....	June 19	Sept. 1
Dillon.....	Montana State Normal College.....	S. E. Davis.....	do.	Aug. 18
Missoula.....	University of Montana.....	Freeman Daughters.....	June 20	Sept. 1
Polson.....	University of Montana Biological Station.	Morton J. Elrod.....	June 1	July 31
NEBRASKA.				
Chadron.....	State Normal and Teachers' College..	Robert I. Elliott.....	June 6	July 29
Collegeview.....	Union College.....	H. A. Morrison.....	June 1	July 26
Fremont.....	Midland College.....	E. E. Stauffer.....	June 12	Aug. 4
Grand Island.....	Grand Island College.....	Charles Firth.....	June 1	Aug. 1
Hastings.....	Hastings College.....	F. E. Weyer.....	June 8	Aug. 8
Kearney.....	State Teachers' College.....	George E. Martin.....	June 5	July 28
Lincoln.....	University of Nebraska.....	A. A. Reed.....	June 3	Aug. 15
Omaha.....	Creighton University.....	W. P. Whelan.....	June 21	Aug. 2
Do.....	University of Omaha.....	Gilbert W. James.....	June 15	Aug. 10
Peru.....	State Normal and Teachers' College..	E. L. Rouse.....	June 5	Aug. 4
University Place.....	Nebraska Wesleyan University.....	B. E. McProud.....	May 31	Aug. 15
Wayne.....	State Normal School and Teachers' College.	U. S. Conn.....	June 6	July 28
York.....	York College.....	C. E. Ashcraft.....	June 5	Do.
NEVADA.				
Reno.....	University of Nevada.....	John W. Hall.....	June 19	July 28
NEW HAMPSHIRE.				
Keene.....	State Normal School.....	Wallace E. Mason.....	July 11	Aug. 18
Plymouth.....	do.....	Ernest L. Silver.....	July 7	Aug. 14
NEW JERSEY.				
Convent Station.....	College of St. Elizabeth.....	Sister Mary Kathleen.....	July 6	Aug. 15
Hoboken.....	Stevens Institute of Technology.....	Alex C. Humphreys.....	Aug. 7	Sept. 2
Madison.....	Drew Theological Seminary.....	F. S. Tipple.....	June 1	July 31
New Brunswick.....	Rutgers Scientific School.....	Charles H. Elliott.....	June 28	Aug. 6
NEW MEXICO.				
Albuquerque.....	University of New Mexico.....	David S. Hill.....	June 15	July 22
East Las Vegas.....	New Mexico Normal University.....	Jonathan H. Wagner.....	June 5	July 24
Silver City.....	New Mexico State Normal School.....	W. O. Hall.....	June 6	July 28
Socorro.....	New Mexico State School of Mines.....	E. H. Wells.....	May 21	Aug. 20
NEW YORK.				
Albany.....	New York State College for Teachers..	Harlan H. Horner.....	July 10	Aug. 19
Alfred.....	Alfred University.....	Paul E. Titworth.....	July 5	Aug. 18
Auburn.....	Auburn Theological Seminary.....	George Black Stewart.....	July 10	Aug. 12
Brookport.....	State Normal School.....	(No summer school, 1921.)	July 5	Do.
Brooklyn.....	Adelphi College.....	Adelbert G. Frodenburgh.....	do.	Aug. 16
Buffalo.....	Buffalo State Normal School.....	Harry W. Rockwell.....	do.	Aug. 15
Do.....	Canisius College.....	Miles J. O'Malia.....	do.	Aug. 19
Do.....	University of Buffalo.....	Julian Park.....	July 10	Aug. 19
Geneseo.....	State Normal School.....	James V. Sturges.....	July 5	Aug. 11
Ithaca.....	Cornell University.....	R. M. Ogden.....	July 8	Aug. 18
New Paltz.....	State Normal School.....	John C. Bliss.....	do.	Aug. 12
New Rochelle.....	College of New Rochelle.....	M. M. Xavier.....	July 5	Aug. 12
New York.....	Biblical Seminary in New York.....	John A. Wood.....	June 21	Aug. 1
Do.....	Chalfi Normal School of Dancing.....	Louis H. Chalfi.....	May 30	July 22
Do.....	College of the City of New York.....	Paul Klapper.....	July 5	Aug. 25
Do.....	Columbia University.....	John J. Coss.....	July 10	Aug. 18
Do.....	Fordham University.....	Rush Rankin.....	July 5	Aug. 12
Do.....	Hunter College of the City of New York	Adele Bildersee.....	do.	Aug. 15
Do.....	New York School of Social Work.....	Porter R. Lee.....	June 15	July 31
Do.....	New York University.....	James E. Lough.....	July 3	Aug. 11
Oneonta.....	State Normal School.....	P. I. Bugbee.....	July 4	Aug. 15
Oswego.....	do.....	James G. Riggs.....	July 6	Do.
Plattsburg.....	do.....	George K. Hawkins.....	July 1	Do.
Potsdam.....	do.....	R. T. Congdon.....	July 5	Aug. 13

## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## I. UNIVERSITIES, COLLEGES, AND NORMAL SCHOOLS—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
NEW YORK—contd.				
Rochester.....	University of Rochester.....	L. A. Pechstein.....	June 20	July 31
Syracuse.....	New York State College of Forestry (camp at Cranberry Lake, N. Y.).	Wilford E. Sanderson..	June 1	Aug. 31
Do.....	Syracuse University.....	Loren C. Petry.....	July 10	Aug. 18
NORTH CAROLINA.				
Boone.....	Appalachian Training School.....	B. B. Dougherty.....	June 1	Aug. 20
Chapel Hill.....	Orange County Training School.....	R. L. Bozeman.....	June 20	July 29
Do.....	University of North Carolina.....	N. W. Walker.....	June 23	Aug. 6
Charlotte.....	Biddle University (colored).....	H. L. McCrory.....	July 1	Aug. 15
Cullowhee.....	Cullowhee Normal and Industrial School.....	W. E. Bird.....	June 14	July 22
Durham.....	Trinity College.....	Holland Holton.....	June 25	Aug. 5
Elizabeth City.....	State Normal School.....	P. W. Moore.....	June 19	July 28
Fayetteville.....	State Normal School (colored).....	E. E. Smith.....	June 24	July 30
Greensboro.....	North Carolina College for Women.....	John H. Cook.....	June 14	July 27
Greenville.....	East Carolina Teachers' Training School.....	C. W. Wilson.....	June 13	Aug. 5
Hickory.....	Lenoir College.....	Q. A. Kuehner.....	June 15	July 23
Method.....	Benj. O'Kelly Training School.....	J. H. Bias.....	July 4	Aug. 12
Parmele.....	Parmele Training School.....	W. O. Chance.....	June 15	Aug. 31
Pembroke.....	Indian Normal School.....	T. C. Henderson.....	July 10	Aug. 18
Salisbury.....	Livingstone College (colored).....	D. C. Suggs.....	June 15	July 30
Southport.....	Brunswick County Training School.....	J. H. Floyd.....	do.....	July 28
Wake Forest.....	Wake Forest College.....	H. T. Hunter.....	do.....	July 30
West Raleigh.....	North Carolina State College of Agri- culture and Engineering.....	W. A. Withers.....	June 13	July 26
Whiteville.....	Columbus County Training School.....	Hugh V. Brown.....	June 5	July 14
NORTH DAKOTA.				
Agricultural College.	North Dakota Agricultural College.....	P. I. Iverson.....	June 19	July 28
Bottineau.....	Forestry State Normal School.....	Vernon Lamar Man- gun.....	June 15	July 22
Dickinson.....	State Normal School.....	Samuel T. May.....	do.....	Sept. 1
Ellendale.....	State Normal and Industrial School.....	R. M. Black.....	June 19	Do.
Fargo.....	Fargo College.....	G. F. Henry.....	do.....	July 31
Jamestown.....	Jamestown College.....	William B. Thomas.....	June 20	Do.
Mayville.....	State Normal School.....	John O. Evjen.....	June 21	Sept. 2
Minot.....	do.....	L. H. Beeler.....	June 26	Sept. 15
University.....	University of North Dakota.....	Joseph Kennedy.....	do.....	Aug. 4
Valley City.....	State Teachers College.....	C. E. Allen.....	June 20	Sept. 1
OHIO.				
Ada.....	Ohio Northern University.....	John Davison.....	May 31	Aug. 9
Akron.....	Municipal University of Akron.....	P. R. Kolbe.....	do.....	do.
Alliance.....	Mount Union College.....	J. B. Bowman.....	do.....	do.
Ashland.....	Ashland College.....	J. E. Jacobs.....	June 10	Sept. 10
Athens.....	Ohio University.....	W. W. McIntire.....	June 17	July 28
Berea.....	Baldwin-Wallace College.....	Frederick Cramer.....	June 1	July 31
Bluffton.....	Bluffton College.....	E. J. Hirschler.....	June 5	Sept. 5
Bowling Green.....	State Normal College.....	H. B. Williams.....	June 20	Aug. 31
Cincinnati.....	St. Xavier College.....	G. R. Kister.....	June 21	Aug. 9
Do.....	University of Cincinnati.....	G. A. Tawney.....	June 26	Aug. 12
Cleveland.....	Case School of Applied Science.....	Charles Sumner Howe.....	do.....	Aug. 4
Do.....	Cleveland School of Education (West- ern Reserve University and Cleve- land Normal School).....	Ambrose L. Suhrie.....	June 19	Aug. 28
Columbus.....	Capital University.....	No summer school, 1921.	July 1	Aug. 15
Do.....	Ohio State University.....		July 1	Sept. 1
Defiance.....	Defiance College.....	A. G. Carls.....	June 19	Sept. 7
Findlay.....	Findlay College.....	William Harris Guyer.....	do.....	do.
Kent.....	State Normal College.....	J. E. McGilvrey.....	June 21	Sept. 1
Maria Stein.....	Normal School of the Precious Blood.....	Sister M. Angeline.....	June 28	Aug. 4
New Concord.....	Muskingum College.....	J. G. Lowery.....	June 19	Sept. 1
Oberlin.....	Oberlin College.....	Edward A. Miller.....	June 23	Aug. 10
Oxford.....	Miami University.....	H. C. Minnich.....	May 10	Sept. 1
Put-in-Bay.....	Ohio State University Lake Labora- tory.....	Raymond G. Osburn.....	June 19	July 30
Rio Grande.....	Rio Grande College.....	W. A. Lewis.....	do.....	Do.
Springfield.....	Wittenberg College.....	T. Bruce Berch.....	do.....	Do.
Toledo.....	St. John's University.....	William J. Engelen.....	June 26	Aug. 4

## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## I. UNIVERSITIES, COLLEGES, AND NORMAL SCHOOLS—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
OHIO—continued.				
Toledo.....	Toledo University.....	Walter Brown.....	July 5	Aug. 12
Wilberforce.....	Wilberforce University (colored).....	Gilbert H. Jones.....	June 21	Aug. 1
Wilmington.....	Wilmington College.....	J. Edwin Jay.....	June 19	Sept. 2
Wooster.....	College of Wooster.....	H. D. Simpson.....	.....	.....
OKLAHOMA.				
Ada.....	East Central State Teachers' College.....	A. Linscheid.....	May 21	July 22
Alva.....	Northwestern State Normal School.....	J. P. Battenberg.....	May 25	Aug. 1
Durant.....	Southeastern State Teachers' College.....	H. G. Bennett.....	May 26	July 28
East End.....	Phillips University.....	M. L. Perkins.....	June 1	July 31
Edmond.....	Central State Teachers' College.....	John G. Mitchell.....	May 29	July 28
Langston.....	Colored Agricultural and Normal University.....	J. M. Marquess.....	June 5	July 29
Norman.....	University of Oklahoma.....	W. W. Phelan.....	June 3	Aug. 1
Stillwater.....	Oklahoma Agricultural and Mechanical College.....	H. P. Patterson.....	June 1	July 31
Tahlequah.....	Northeastern State Normal School.....	W. T. Ford.....	do.....	Aug. 1
Tulsa.....	University of Tulsa.....	J. M. Gordon.....	June 10	Aug. 10
Weatherford.....	Southwestern State Teachers' College.....	A. H. Burris.....	May 25	July 22
OREGON.				
Corvallis.....	Oregon State Agricultural College.....	M. Ellwood Smith.....	June 19	July 20
Eugene.....	University of Oregon.....	Colin Dymont.....	June 20	Aug. 1
Monmouth.....	Oregon Normal School.....	J. S. Sanders.....	June 26	Sept. 26
Mount Angel.....	Mount Angel Academy and Normal School.....	Sister M. Rose.....	June 19	Aug. 1
Oswego.....	Marylhurst Normal School.....	Sister Mary Margaret.....	do.....	July 28
Portland.....	University of Oregon Extension.....	George Rebec.....	June 20	July 29
Salem.....	Willamette University.....	W. H. Hertzog.....	July 1	Aug. 15
PENNSYLVANIA.				
Allentown.....	Cedar Crest College.....	(No summer school, 1921.)	July 5	Aug. 12
Do.....	Muhlenberg College.....	Isaac Miles Wright.....	July 1	Aug. 15
Annville.....	Lebanon Valley College.....	T. Bayard Beatty.....	June 21	Aug. 4
Beaver Falls.....	Geneva College.....	A. A. Johnston.....	June 19	Aug. 19
Bethlehem.....	Lehigh University.....	Natt M. Emery.....	July 5	Aug. 12
Bloomsburg.....	State Normal School.....	C. H. Fisher.....	June 19	Aug. 26
Bryn Mawr.....	Bryn Mawr College.....	S. M. Kingsbury.....	June 15	Aug. 15
California.....	Southwestern State Normal School.....	John A. Entr.....	June 19	Aug. 19
Cheyney.....	Cheyney Training School for Teachers (colored).....	(No summer school, 1921.)	June 21	Aug. 23
Clarion.....	Clarion State Normal School.....	Clyde C. Green.....	June 20	Aug. 20
Collegeville.....	Ursinus College.....	Whorton A. Kline.....	June 26	Aug. 4
Easton.....	Lafayette College.....	D. B. Prentice.....	June 15	July 7
East Stroudsburg.....	State Normal School.....	H. T. Spengler.....	June 19	Aug. 18
Edinboro.....	Edinboro State Normal School.....	Frank E. Baker.....	June 19	Aug. 19
Grove City.....	Grove City College.....	A. G. Crane.....	do.....	Aug. 19
Huntingdon.....	Junata College.....	Weir C. Ketter.....	June 20	Aug. 18
Indiana.....	State Normal School.....	A. W. Duplee.....	June 19	Aug. 19
Kutztown.....	Keystone State Normal School.....	John A. H. Keith.....	do.....	Do.
Lock Haven.....	Central State Normal School.....	A. C. Rothermel.....	June 9	Do.
Mansfield.....	Mansfield State Normal School.....	Warren Nevin Drum.....	June 20	Aug. 20
Meadville.....	Allegheny College.....	A. T. Belknap.....	June 19	Aug. 19
Milleville.....	State Normal School.....	C. F. Ross.....	June 21	Aug. 1
Philadelphia.....	La Salle College.....	C. H. Gordinier.....	June 13	Aug. 13
Do.....	Temple University.....	Brother F. John.....	July 1	Aug. 1
Do.....	University of Pennsylvania.....	James H. Dunham.....	July 5	Aug. 16
Pittsburgh.....	Carnegie Institute of Technology.....	H. Lamar Crosby.....	do.....	Aug. 19
Do.....	Duquesne University.....	R. M. Thrig.....	June 27	Do.
Do.....	University of Pittsburgh.....	M. A. Hehr.....	July 1	Aug. 31
Shippensburg.....	Cumberland Valley State Normal School.....	W. G. Chambers.....	July 6	Aug. 28
Slippery Rock.....	Slippery Rock State Normal School.....	Ezra Lehman.....	June 19	Aug. 19
State College.....	Slippery Rock State Normal School.....	J. Linwood Eisenberg.....	do.....	Aug. 20
Villanova.....	Pennsylvania State College.....	do.....	June 26	Aug. 26
Villanova.....	Villanova College.....	W. G. Rafter.....	July 1	Aug. 13
Washington.....	Washington and Jefferson College.....	M. A. Dickie.....	June 15	Aug. 7
Waynesburg.....	Waynesburg College.....	(No summer school, 1921.)	June 21	Aug. 23
West Chester.....	State Normal School.....	Andrew Thomas Smith.....	June 19	Aug. 19

## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## I. UNIVERSITIES, COLLEGES, AND NORMAL SCHOOLS—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
PORTO RICO.				
Rio Piedras.....	University of Porto Rico.....	A. G. Steele.....	July 5	Do.
RHODE ISLAND.				
Providence.....	Rhode Island College of Education....	John L. Alger.....	July 10	Aug. 18
SOUTH CAROLINA.				
Clinton.....	Presbyterian College of South Carolina.	D. M. Douglas.....	June 13	Aug. 4
Columbia.....	Benedict College (colored).....	.....	June 1	July 12
Do.....	University of South Carolina.....	J. A. Stoddard.....	June 15	July 21
Greenville.....	Furman University.....	W. J. McGlothlin.....	June 14	July 22
Marion.....	Marion County Training School (colored).	John P. Burgees.....	Aug. 2	Sept. 10
Newberry.....	Newberry College.....	S. J. Derrick.....	July 10	Aug. 20
Orangeburg.....	State Agricultural and Mechanical College.	R. S. Wilkinson.....	June 12	July 21
Rock Hill.....	Winthrop College.....	D. B. Johnson.....	June 20	July 28
Spartanburg.....	Converse College.....	Guy E. Snively.....	.....	.....
Do.....	Wofford College Fitting School.....	W. C. Herbert.....	June 15	Aug. 15
SOUTH DAKOTA.				
Aberdeen.....	Northern Normal and Industrial School.	Harold W. Foght.....	June 12	Aug. 30
Brookings.....	South Dakota State College of Agriculture and Mechanic Arts.	H. B. Mathews.....	June 19	Sept. 1
Huron.....	Huron College.....	Harold G. Laurance.....	June 20	July 31
Madison.....	Eastern State Normal School.....	E. C. Higbie.....	June 6	Aug. 26
Mitchell.....	Dakota Wesleyan University.....	M. J. Holmes.....	June 10	Aug. 31
Sioux Falls.....	Augustana College and Normal School.	(No summer school, 1921.)	June 19	July 31
Do.....	Sioux Falls College.....	V. C. Coulter.....	June 12	Aug. 19
Spearsfish.....	State Normal School.....	M. S. Hallman.....	June 7	Aug. 26
Springfield.....	Southern State Normal School.....	C. G. Lawrence.....	June 15	Aug. 22
Vermilion.....	University of South Dakota.....	William A. Cook.....	June 19	July 29
Yankton.....	Yankton College.....	G. H. Durand.....	June 15	Aug. 1
TENNESSEE.				
Harrogate.....	Lincoln Memorial University.....	Thomas B. Ford.....	May 15	Aug. 4
Jackson.....	Union University.....	H. E. Watters.....	June 8	Aug. 10
Jefferson City.....	Carson and Newman College.....	O. E. Sams.....	June 1	Aug. 15
Johnson City.....	East Tennessee State Normal School.	Sidney G. Glibbreath.....	June 5	Aug. 12
Knoxville.....	Summer School of the South (University of Tennessee).	J. A. Thackston.....	June 13	Aug. 31
Martin.....	Hall-Moody Normal School.....	James T. Warren.....	June 1	July 20
Morristown.....	Morristown Normal and Industrial College (colored).	(No summer school, 1921.)	June 15	Aug. 1
Murfreesboro.....	Middle Tennessee State Normal School.	P. A. Lyon.....	June 6	July 15
Nashville.....	Agricultural and Industrial State Normal School (colored).	W. J. Hale.....	June 10	July 25
Do.....	Fisk University (colored).....	F. A. McKenzie.....	June 9	Aug. 31
Do.....	George Peabody College for Teachers.	Bruce A. Payne.....	June 6	Aug. 26
Normal.....	West Tennessee State Normal School.	Andrew A. Kincannon.....	June 5	Aug. 12
Sewanee.....	University of the South.....	R. B. Davis.....	June 20	Aug. 31
Somerville.....	Fayette County Industrial and Agricultural School.	W. P. Ware.....	July 3	July 29
TEXAS.				
Abilene.....	Abilene Christian College.....	Henry Eli Speck.....	June 12	Aug. 23
Do.....	Simmons College.....	J. D. Sandeger.....	June 14	Aug. 19
Alpine.....	Sul Ross State Normal College.....	R. S. Marquis.....	July 4	Aug. 20
Arlington.....	Grubbs Vocational College.....	M. S. Williams.....	June 12	Aug. 10
Austin.....	University of Texas.....	Frederick Eby.....	June 13	Aug. 31
Belton.....	Baylor Female College.....	E. G. Townsend.....	June 7	Aug. 12
Brownwood.....	Daniel Baker College.....	(No summer school, 1921.)	June 14	Aug. 30
Do.....	Howard Payne College.....	L. J. Mims.....	June 12	Aug. 12
Canyon.....	West Texas State Normal College.....	J. A. Hill.....	June 8	Aug. 23
Clarendon.....	Clarendon College.....	B. F. Sisk.....	.....	.....
College Station.....	Agricultural and Mechanical College of Texas.	S. H. Condron.....	May 31	July 15
		J. Oscar Morgan.....	June 13	Sept. 1

## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## I. UNIVERSITIES, COLLEGES, AND NORMAL SCHOOLS—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
TEXAS—continued.				
Commerce.....	East Texas Normal College.....	R. B. Binnion.....	June 5	Aug. 25
Dallas.....	Southern Methodist University.....	C. A. Nichols.....	June 14	Sept. 2
Do.....	University of Dallas.....	(No summer school, 1921.)	June 2	
Denton.....	College of Industrial Arts.....	F. G. Jones.....	June 6	Aug. 29
Do.....	North Texas State Normal College.....	E. D. Criddle.....	June 9	Aug. 26
Ft. Worth.....	Texas Christian University.....	Colby D. Hall.....	June 12	Aug. 18
Do.....	Texas Woman's College.....	H. E. Stout.....	June 6	Aug. 2
Georgetown.....	Southwestern University.....	Randolph W. Tinsley.....	June 15	Aug. 31
Greenville.....	Wesley College.....	George B. Jackson.....	June 1	Aug. 5
Hallettsville.....	Colored Industrial Training School.....	W. D. Newton.....	June 5	July 15
Huntsville.....	Sam Houston State Normal School.....	G. L. Clark.....	June 6	Aug. 24
Marshall.....	College of Marshall.....	H. F. Estill.....	June 6	Aug. 24
Prairie View.....	Prairie View Normal and Industrial College (colored). Our Lady of the Lake College.....	W. F. Garner.....	June 5	Aug. 25
San Antonio.....	Southwestern Texas State Normal School.....	L. R. Rosey.....	June 8	Aug. 1
San Marcos.....	Southwestern Baptist Theological Seminary.....	Mother M. Philothea.....	June 26	Aug. 6
Seminary Hill.....	Austin College.....	C. E. Evan.....	June 15	Aug. 15
Sherman.....	John Tarleton Agricultural College.....	L. R. Scarborough.....	June 1	July 8
Stephenville.....	Westminster College.....	T. J. Leslie.....	June 8	Aug. 8
Tehuacana.....	Baylor University.....	J. D. Bramlette.....	June 11	Aug. 11
Waco.....		C. N. Comfort.....	June 5	Aug. 11
		S. F. Brooks.....	June 19	Sept. 1
UTAH.				
Logan.....	Agricultural College of Utah.....	James H. Linford.....	June 5	Aug. 25
Provo.....	Brigham Young University.....	George H. Brimhall.....	June 1	July 31
Salt Lake City.....	University of Utah.....	Milton Bennion.....	June 7	Aug. 26
VERMONT.				
Burlington.....	University of Vermont and State Agricultural College.....	F. B. Jenks.....	July 3	Aug. 11
Middlebury.....	Middlebury College.....	Edward D. Collins.....	June 30	Aug. 17
Northfield.....	Norwich University.....	Arthur E. Winslow.....	July 1	Aug. 31
VIRGINIA.				
Blacksburg.....	Virginia Polytechnic Institute.....	J. W. Watson.....	June 19	July 29
East Radford.....	State Normal School for Women.....	John P. McConnell.....	June 16	Sept. 2
Emory.....	Emory and Henry College.....	H. M. Henry.....	June 15	July 27
Farmville.....	Farmville State Normal School.....	J. L. Jarman.....	June 29	July 30
Fredericksburg.....	State Normal School.....	A. B. Chandler.....	June 18	Sept. 1
Hampton.....	Hampton Institute (colored).....	George P. Phenix.....	June 20	July 23
Harrisonburg.....	State Normal and Industrial School for Women.....	Samuel P. Duke.....	June 19	Sept. 1
Petersburg.....	Virginia Normal and Industrial Institute.....	John M. Gandy.....	June 15	Sept. 15
Richmond.....	University of Richmond.....	W. L. Prince.....	do.....	July 30
Rockbridge Baths.....	Virginia Military Institute.....	B. B. Mayo.....	July 20	Sept. 4
University.....	University of Virginia.....	Charles G. Maphis.....	June 19	Sept. 2
Williamsburg.....	College of William and Mary.....	K. J. Hoke.....	June 15	Sept. 1
WASHINGTON.				
Bellingham.....	State Normal School.....	G. W. Nash.....	June 5	Aug. 18
Centralia.....	Washington State Normal School.....	(No summer school, 1921.)	July 7	Aug. 20
Cheyney.....	State Normal School.....	N. P. Showalter.....	June 5	Aug. 10
Ellensburg.....	do.....	H. C. Fish.....	June 12	Aug. 25
Friday Harbor.....	Puget Sound Biological Station.....	T. C. Frye.....	June 20	Aug. 1
Fullman.....	State College of Washington.....	A. A. Cleveland.....	June 12	July 21
Puyallup.....	School of Agriculture for Teachers (State College of Washington). Holy Names Academy and Normal School.....	N. J. Aiken.....	June 15	Aug. 1
Seattle.....	University of Washington.....	Sister M. Doloresa.....	July 3	Aug. 11
Do.....	Holy Names Normal School.....	Frederick E. Bolton.....	June 20	Aug. 30
Spokane.....	College of Puget Sound.....	Sister Mary Lorentia.....	June 15	Aug. 1
Tacoma.....		F. L. Gledahl.....	June 12	Aug. 11

## XVI. DIRECTORS OF SUMMER SCHOOLS—Continued.

## I. UNIVERSITIES, COLLEGES, AND NORMAL SCHOOLS—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
WEST VIRGINIA.				
Athens.....	Concord State Normal School.....	Fred A. Forster.....	June 13	Aug. 8
Bethany.....	Bethany College.....	J. Allan Hunter.....	June 19	July 1
Elkins.....	Davis and Elkins College.....	James E. Allen.....	June 20	July 2
Fairmont.....	State Normal School.....	Joseph Rosier.....	June 15	Aug. 7
Glenville.....	do.....	E. O. Rohrbaugh.....	do.....	Aug. 1
Huntington.....	Marshall College.....	F. R. Hamilton.....	June 12	Aug. 25
Institute.....	West Virginia Collegiate Institute (colored).....	S. H. Guss.....	June 14	July 21
Morgantown.....	West Virginia University.....	Waltman Barbe.....	June 12	Aug. 25
Salem.....	Salem College.....	S. O. Bond.....	June 5	Aug. 7
Shepherdstown.....	Shepherd College State Normal School.....	W. H. S. White.....	June 13	Aug. 8
West Liberty.....	State Normal School.....	Howard J. McGinnis.....	June 12	Aug. 11
WISCONSIN.				
Ashland.....	Ashland County Training School.....	J. M. Lorcheter.....	June 19	July 30
Beloit.....	Beloit College.....	W. A. Hamilton.....	June 26	Aug. 5
Berlin.....	Green Lake County Training School.....	J. F. Casavaugh.....	June 12	July 24
Columbus.....	Columbia County Normal School.....	M. C. Palmer.....	June 20	Aug. 1
Eau Claire.....	Eau Claire County Training School.....	F. E. Jaastad.....	do.....	do.....
Do.....	Eau Claire State Normal School.....	H. A. Schofield.....	June 20	Aug. 1
Janesville.....	Rock County Training School.....	Frank J. Lowth.....	June 21	July 29
Kaukauna.....	Outagamie County Training School.....	W. P. Hagmann.....	June 15	July 31
La Crosse.....	State Normal School.....	F. A. Cotton.....	June 19	Aug. 28
Ladysmith.....	Rusk County Training School.....	R. M. Dreesen.....	June 26	Aug. 4
Madison.....	University of Wisconsin.....	S. H. Goodnight.....	do.....	Do.
Marinette.....	Stephenson Training School.....	Elizabeth M. King.....	do.....	do.....
Medford.....	Taylor County Training School.....	(No summer school, 1921.).....	June 23	Aug. 4
Menomonie.....	Stout Institute.....	C. A. Bowman.....	June 30	Aug. 31
Merrill.....	Lincoln County Training School.....	E. W. McCrary.....	June 15	July 20
Marquette.....	Marquette University.....	John P. McNichols.....	June 26	Aug. 5
Milwaukee.....	National Teachers' Seminary.....	Max Griebisch.....	do.....	July 29
Do.....	State Normal School.....	Carroll G. Pearse.....	June 19	July 28
Monroe.....	Green County Training School.....	C. H. Dietz.....	June 5	July 14
New Lisbon.....	Juneau County Teachers' Training School.....	C. W. McNown.....	June 26	Aug. 4
Oshkosh.....	State Normal School.....	H. A. Brown.....	June 19	July 28
Phillips.....	Price County Training School.....	William Milne.....	do.....	Do.
Platteville.....	State Normal School.....	J. C. Brackett.....	June 12	July 21
Prairie du Chien.....	Campion College.....	James B. Macelwane.....	June 25	Aug. 8
Rice Lake.....	Barron County Training School.....	L. P. Bunker.....	July 1	Aug. 15
Richland Center.....	Richland County Normal School.....	(No summer school, 1921.).....	July 3	Aug. 9
River Falls.....	State Normal School.....	J. H. Ames.....	June 15	July 25
St. Francis.....	Pio Nono College.....	Joseph J. Pierron.....	July 1	Aug. 15
Sinsinawa.....	St. Clara College.....	Sister M. Gabriella.....	do.....	July 26
Stevens Point.....	State Normal School.....	John F. Sims.....	June 19	July 30
Superior.....	do.....	V. E. McCaskill.....	do.....	Aug. 2
Union Grove.....	Racine-Kenosha Joint County Training School.....	Arthur J. Smith.....	Aug. 1	Aug. 31
Viroqua.....	Vernon County Normal School.....	(No summer school, 1921.).....	June 25	Aug. 25
Whitewater.....	State Normal School.....	F. S. Hyer.....	June 19	July 28
WYOMING.				
Laramie.....	University of Wyoming.....	C. R. Maxwell.....	June 19	July 29

## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## II. SECONDARY SCHOOLS (INCLUDING INSTITUTIONS OF HIGHER RANK NOT APPEARING IN PART I).

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
ALABAMA.				
Birmingham.....	Miles Memorial College (colored).....	R. T. Brown.....	June 6	July 16
Huntsville.....	Oakwood Junior College (colored).....	J. I. Beardsley.....	June 1	Aug. 1
Seale.....	Russell County Training School.....	(No summer school, 1921.)	June 5	Aug. 4
Selma.....	Selma University.....	W. H. Dinkins.....	do.	July 14
Tuscaloosa.....	Stillman Institute (colored).....	Paul H. Moore.....	do.	Do.
CALIFORNIA.				
Berkeley.....	California School of Arts and Crafts..	Frederick H. Meyer...	June 19	July 29
Los Angeles.....	Krotona Institute of Theosophy.....	George H. Hall.....	June 15	Sept. 15
Piedmont.....	Class in Outdoor Sketching and Painting.	Frederick H. Meyer....	June 19	July 29
Riverside.....	Riverside Library Service School.....	Joseph F. Daniels.....	June 19	July 28
San Francisco.....	California School of Fine Arts.....	Lee F. Randolph.....	do.	Do.
CONNECTICUT.				
Greenwich.....	Fairhope Summer School.....	Marietta Johnson.....	July 5	Aug. 18
New Haven.....	Fox Tutoring School.....	George L. Fox.....	Aug. 1	Sept. 26
Norwalk.....	Harström School.....	Carl Axel Harström....	July 31	Sept. 18
Stamford.....	Massee Country School.....	W. W. Massee.....	June 25	Do.
DELAWARE.				
Dover.....	State College for Colored Students....	Clarence R. Whyte....	July 5	Aug. 16
DISTRICT OF COLUMBIA.				
Washington.....	Emerson Institute.....	W. H. Randolph.....	June 15	Sept. 1
FLORIDA.				
Delray.....	County Training School.....		June 5	Aug. 5
Tallahassee.....	Florida Agricultural and Mechanical College for Negroes.	Everett B. Jones.....	June 20	Aug. 12
GEORGIA.				
Mount Berry.....	The Berry Schools.....	Martha Berry.....	June 1	July 1
HAWAII.				
Honolulu.....	Territorial Summer School.....	William McCluskey...	July 5	Aug. 12
ILLINOIS.				
Chicago.....	American Conservatory of Music.....	John J. Hattsteadt....	June 26	Aug. 5
Do.....	Applied Arts School.....	Florence H. Fitch.....	July 1	July 30
Do.....	Art Institute of Chicago.....	Fanny J. Kendall.....	July 3	Sept. 9
Do.....	Chicago Academy of Fine Arts.....	Carl N. Wentz.....	June 27	Sept. 2
Do.....	Chicago Musical College.....	Felix Borowski.....	June 28	Aug. 8
Do.....	Columbia School of Music.....	Carl D. Kinsey.....	June 28	Aug. 8
Do.....	Cosmopolitan School of Music and Dramatic Art.	Clare Osborne Reed....	May 15	July 29
Do.....	Gregg School.....	William Carver Williams.	June 26	Do
Do.....	Industrial Art School.....	Henry J. Holm.....	July 3	Aug. 11
Do.....	Sherwood Music School.....	Hugo B. Froelich.....	June 27	Aug. 4
Do.....	American Institute of Normal Methods.	Bonnie E. Snow.....	June 27	Aug. 4
Evanston.....	Gem City Business College.....	Walter Keller.....	June 30	Aug. 6
Quincy.....		Frank D. Farr.....	June 25	July 14
		T. E. Musselman.....	May 31	Sept. 1
INDIANA.				
Culver.....	Culver Summer Schools.....	S. R. Gigliulliat.....	June 28	Aug. 23
Ferdinand.....	Academy of the Immaculate Conception.	Mother M. Seraphina..	June 24	Aug. 1
Indianapolis.....	Art School of the John Herron Art Institute.	Harold Haven Brown..	June 18	July 31
Do.....	Indiana College of Music and Fine Arts.	Harry G. Hill.....	June 26	Aug. 26

## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## II. SECONDARY SCHOOLS (INCLUDING INSTITUTIONS OF HIGHER RANK NOT APPEARING IN PART I)—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
INDIANA—continued.				
Indianapolis.....	Metropolitan School of Music.....	Flora M. Hunter.....	July 26	Aug. 13
Do.....	School for Librarians.....	Edward Nell.....	June 14	July 27
North Manchester.....	Manchester College.....	William J. Hamilton.....	May 22	Aug. 13
Oldenburg.....	Immaculate Conception Normal.....	Otho Winger.....	June 28	July 31
St. Mary-of-the Woods.....	St. Mary-of-the-Woods College.....	Sister Mary de Sales.....	July 3	Aug. 3
Ubee.....	Huntington College.....	Mother M. Cleophas.....	June 1	Aug. 15
IOWA.				
Cedar Rapids.....	Palmer Method School.....	D. R. Ellabarger.....	June 26	July 21
Cherokee.....	Mt. St. Mary Normal Training School.....	W. C. Henning.....	June 19	Aug. 1
LOUISIANA.				
Baton Rouge.....	Southern University (colored).....	Sister M. Emmanuel.....	June 12	July 28
Lafayette.....	Southwestern Louisiana Institute.....	W. D. Thomas.....	June 5	Aug. 5
Ruston.....	Louisiana Polytechnic Institute.....	Edwin L. Stephens.....	June 19	July 30
MAINE.				
Boothbay Harbor ..	Commonwealth School of Art.....	J. E. Keeny.....	July 5	Aug. 27
MARYLAND.				
Baltimore.....	Peabody Conservatory of Music.....	Asa G. Randall.....	July 1	Aug. 13
MASSACHUSETTS.				
Auburndale.....	American Institute of Normal Methods.....	Frederick R. Huber...	July 6	July 27
Boston.....	Burdette College.....	Osborne McConathy ..	June 15	Sept. 15
Do.....	Emerson College of Oratory.....	I. S. Lindabury.....	July 5	Aug. 12
Do.....	Miss Farmer's School of Cookery.....	Walter B. Tripp.....	June 1	July 31
Do.....	School of Eugenics.....	Alice Bradley.....	May 16	Oct. 1
Do.....	School of Expression.....	Evangeline W. Young.....	July 5	Aug. 30
East Gloucester.....	Breckenridge School of Painting.....	(S. S. Curry <sup>1</sup> .....	July 3	Aug. 18
Lynn.....	Branch of Burdette College.....	Anna Bright Curry.....	do	Aug. 11
Monterey.....	Berkshire School of Art.....	Hugh H. Breckenridge.....	July 5	July 20
Northampton.....	Institute of Music Pedagogy.....	H. W. Pelton.....	May 1	Oct. 1
Oak Bluff.....	Treat Tutoring School.....	Raymond P. Ensign.....	July 5	Aug. 28
Provincetown.....	Cape Cod School of Art.....	Ernest W. Watson.....	July 1	Oct. 1
Do.....	School of Drawing and Painting.....	Ralph L. Baldwin.....	do	July 31
Springfield.....	Bay Path Institute.....	Edwin Bryant Treat.....	do	Aug. 20
Vineyard Haven.....	Martha's Vineyard School of Art.....	H. N. Campbell.....	do	Aug. 31
Warren.....	Woburn Academy.....	E. Ambrose Webster.....	July 10	Aug. 18
Worcester.....	Worcester Girls Trade School.....	M. F. Palmer.....		
MICHIGAN.				
Big Rapids.....	Ferris Institute.....	Arthur R. Freelandier.....		
Fountain.....	International Society School of Applied Psychology.....	C. E. Carter.....		
Saugatuck.....	School of Painting.....	(No summer school, 1921.)		
MINNESOTA.				
Faribault.....	Shattuck School.....	W. N. Ferris.....	July 5	Aug. 13
Minneapolis.....	Humboldt College.....	Orlando Edgar Miller.....	Aug. 1	Aug. 31
Do.....	Minneapolis School of Art.....	Frederick F. Fursman.....	June 27	Sept. 3
Do.....	Minnesota College.....	John Hersey Wheeler.....	June 19	July 29
MISSISSIPPI.				
Clarksdale.....	Clarksdale Negro Normal School.....	J. P. Peterson.....	June 1	Aug. 31
Jackson.....	Jackson College (colored).....	Mary Moulton Phenev.....	June 19	July 29
Mound Bayou.....	Bolivar County Training School.....	Frank Nelson.....	May 31	July 26
Shelby.....	Industrial and Agricultural College for Negroes.....			
		H. B. Heidelberg.....	Aug. 9	Sept. 12
		B. B. Dausburg.....	June 1	July 15
		J. H. Moseley.....	July 15	Aug. 25
		J. M. Williamson.....	do	Sept. 1

<sup>1</sup> Conducted term in Boston, Mass.<sup>2</sup> Conducted term in Asheville, N. C.



## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## II. SECONDARY SCHOOLS (INCLUDING INSTITUTIONS OF HIGHER RANK NOT APPEARING IN PART I)—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
MONTANA.				
Lewistown.....	Central Montana Regional School.....	F. L. Cummings.....	June 19	Aug. 19
Miles City.....	Eastern Montana School.....	A. T. Peterson.....	June 1	Aug. 31
NEW HAMPSHIRE.				
Bristol.....	Pasquaney Nature Club.....	Laura Hoover Hassan.....	June 29	Aug. 31
Exeter.....	Phillips Exeter Academy.....	John C. Kirkland.....	July 11	Sept. 1
NEW JERSEY.				
Allenhurst.....	Rand School.....	Edwin Watson Rand.....	July 1	Sept. 20
Princeton.....	Princeton School.....	C. R. Morey.....	July 26	Do.
Do.....	Princeton Tutoring School.....	John Gale Hun.....	July 18	Sept. 5
NEW YORK				
Albany.....	New York State Library School.....	J. I. Wyer, Jr.....	July 5	Aug. 15
Cliff Haven.....	Catholic Summer School of America.....	John E. Flood.....	July 1	Sept. 1
Cold Spring Harbor.....	Biological Laboratory of the Brooklyn Institute of Arts and Sciences.....	Charles B. Davenport.....	July 5	Aug. 16
Monroe.....	Mackenzie School.....	James C. Mackenzie.....	June 1	Aug. 31
New York.....	Brown Tutoring School.....	F. L. Brown.....	July 5	Sept. 15
Do.....	Clarence H. White School of Photography.....	Clarence H. White.....	do.	Aug. 26
Do.....	New York Preparatory School.....	Emil E. Camerer.....	June 19	Sept. 8
Do.....	New York School of Fine and Applied Arts.....	Frank Alvah Parsons.....	July 5	Aug. 18
Do.....	Palmer Method School.....	A. N. Palmer.....	June 24	July 29
Nyack.....	Seymour School of Musical Reeducation.....	Harriet Ayer Seymour.....	July 1	Sept. 1
Rochester.....	Rochester Athenaeum and Mechanics Institute.....	Marshall Bartholomew.....	June 25	Aug. 18
		Alfred A. Johns.....		
Do.....	Rochester Business Institute.....	S. C. Williams.....	July 5	July 31
St. Josephs.....	St. Joseph's Vacation School.....	John F. Forbes.....	July 6	Aug. 11
Woodstock.....	Woodstock School of Landscape Painting of the Art Students League.....	Mother Polycarpa.....	June 15	Oct. 15
		Charles Rosen.....		
NORTH CAROLINA.				
Asheville.....	Asheville Normal.....	John E. Calfee.....	June 15	July 29
Brevard.....	Brevard Institute.....	L. B. Haynes.....	June 13	July 21
Buies Creek.....	Buies Creek Academy.....	J. A. Campbell.....	May 31	June 15
Durham.....	National Training School.....	James E. Shepard.....	June 20	July 29
Greensboro.....	Agricultural and Technical College (colored).....	F. D. Bluford.....	July 27	Aug. 7
Red Springs.....	State Approved and County Summer School.....	L. Lee White.....	June 20	July 30
OHIO.				
Cincinnati.....	Art Academy of Cincinnati.....	J. H. Gest.....	June 19	Aug. 26
Do.....	Ohio Mechanics Institute.....	John T. Faig.....	June 20	July 31
Columbus.....	Capitol College of Oratory and Music.....	James A. Burns.....	June 15	Aug. 1
OKLAHOMA.				
Goodwell.....	Panhandle Agricultural and Mechanical College.....	George A. Coffey.....	May 30	July 26
OREGON.				
Portland.....	Link's Business School.....	A. T. Link.....	June 3	Aug. 15
PENNSYLVANIA.				
Lancaster.....	Franklin and Marshall Academy.....	E. M. Hartman.....	June 18	July 26
Muncy.....	Lycoming County Normal School.....	Sylvester B. Dunlap.....	Apr. 1	Sept. 1
Oberlin.....	Oberlin Business College.....	J. T. Henderson.....	June 13	Aug. 8
Philadelphia.....	Brown Preparatory School.....	Alonzo Brown.....	June 20	Sept. 1
Do.....	Neff College.....	Stas Neff.....	June 30	July 31
Do.....	Peirce School of Business Administration.....	Louis B. Moffett.....	July 5	Aug. 11
Do.....	Pennsylvania Museum and School of Industrial Art.....	Huger Elliott.....	July 1	July 31
Pittsburgh.....	Byron W. King's School of Oratory.....	Byron W. King.....	June 13	July 23
Willoughby.....	Andrews Institute for Girls.....	S. D. Shankland.....	June 19	July 23

## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## II. SECONDARY SCHOOLS (INCLUDING INSTITUTIONS OF HIGHER RANK NOT APPEARING IN PART I)—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
TENNESSEE.				
Cookeville.....	Tennessee Polytechnic Institute.....	Q. M. Smith.....	June 3	July 20
Walling.....	Webb School.....	W. R. Webb.....	June 8	Aug. 15
TEXAS.				
Marshall.....	Wiley University.....	G. Whitte Jordan.....	June 14	Sept. 3
San Antonio.....	Incarnate Word College.....	P. H. Underwood.....	June 15	July 27
VIRGINIA.				
Lawrenceville.....	St. Paul's Normal and Industrial School (colored).....	James S. Russell.....	June 20	July 20
Manassas.....	Manassas Industrial School.....	Edward D. Howe.....	July 1	July 31
Norfolk.....	Norfolk Summer Normal School (colored).....	D. G. Jacob.....	June 20	July 15

## III. SUMMER NORMAL TRAINING SCHOOLS.

<b>CONNECTICUT.</b>				
New Haven.....	State Summer Normal School.....	J. L. Meader.....	July 5	Aug. 12
<b>LOUISIANA.</b>				
Alexandria.....	Rapides Parish Training School for Negroes.	R. E. Brown.....	Eight weeks.	
Bastrop.....	Morehouse Parish Training School for Negroes.	R. G. Steptoe.....	Do.	
Baton Rouge.....	East Baton Rouge Parish Training School for Negroes.	J. M. Frazier.....	Do.	
Bernice.....	Union Parish Training School for Negroes.	Harris Hamilton.....	Do.	
Coushatta.....	Red River Parish Training School for Negroes.	J. W. Thomas.....	Do.	
Delhi.....	Richland Parish Training School for Negroes.	H. E. Parker.....	Do.	
De Ridder.....	Beauregard Parish Training School for Negroes.	Y. A. Le Noir.....	Do.	
Dodson.....	Winn Parish Training School for Negroes.	G. L. Hawk.....	Do.	
Franklinton.....	Washington Parish Training School for Negroes.	B. P. Smith.....	Do.	
Gibbsland.....	Bienville Parish Training School for Negroes.	J. D. Stewart.....	Do.	
Homer.....	Caliborne Parish Training School for Negroes.	F. H. Hendrix.....	Do.	
Kentwood.....	Tangipahoa Parish Training School for Negroes.	O. W. Dillon.....	Do.	
Lake Providence.....	East Carroll Parish Training School for Negroes.	G. W. Griffin.....	Do.	
Lukeville.....	West Baton Rouge Parish Training School for Negroes.	J. W. Lee.....	Do.	
Many.....	Sabine Parish Training School for Negroes.	W. B. Purvis.....	Do.	
Minden.....	Webster Parish Training School for Negroes.	J. H. Whaley.....	Do.	
Monroe.....	Ouachita Parish Training School for Negroes.	M. J. Foster.....	Do.	
Natchitoches.....	Natchitoches Parish Training School for Negroes.	W. F. Booker.....	Do.	
New Orleans.....	Orleans Parish Training School for Negroes.	A. E. Perkins.....	Do.	
Oakdale.....	Allen Parish Training School for Negroes.	T. J. Simpson.....	Do.	
Opelousas.....	St. Landry Parish Training School for Negroes.	J. H. Augustine.....	Do.	
Patterson.....	St. Mary Parish Training School for Negroes.	G. C. Jones.....	Do.	
Ruston.....	Lincoln Parish Training School for Negroes.	S. B. Belton.....	Do.	

## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## III. SUMMER NORMAL TRAINING SCHOOLS—continued.

Location.	Summer school.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
LOUISIANA—contd.				
Shreveport.....	Caddo Parish Training School for Negroes.	R. P. Player.....	Eight Weeks.	
Tallulah.....	Madison Parish Training School for Negroes.	C. H. Hill.....	Do.	
Vidalia.....	Concordia Parish Training School for Negroes.	E. H. Green.....	Do	
Winnsboro.....	Franklin Parish Training School for Negroes.	J. S. Hunter.....	Do.	
MISSISSIPPI.				
Aberdeen.....	State Summer Normal School.....	L. B. Reid.....	July 11	Aug. 13
Ackerman.....	State Summer Normal School (colored).	Luther H. Braswell.....	July 18	Aug. 20
Benton.....	State Summer Normal School.....	T. H. Stanley.....		
Charleston.....	State Summer Normal School (colored).	W. E. Johnston.....	July 18	Aug. 3
Clarksdale.....	do.....	P. F. Williams.....	Aug. 8	Sept. 9
Cleveland.....	do.....	J. C. Windham.....	July 18	
Columbus.....	do.....	E. A. Stanley.....	do.	Aug. 3
Corinth.....	State Summer Normal School.....	M. E. Mofft.....	July 11	Aug. 13
Greenville.....	State Summer Normal School (colored).	A. L. Stephens.....	July 18	Aug. 12
Grenada.....	do.....	H. B. Buckingham.....	July 8	
Hattiesburg.....	do.....	Carl Strahan.....	June 13	July 12
Hazleton.....	do.....	J. Q. Martin.....	July 18	Aug. 13
Holly Springs.....	do.....		Aug. 3	Sept. 3
Indianola.....	do.....	G. B. Sanders.....	July 18	Aug. 20
Ittabena.....	do.....	C. F. Capps.....	do.	Aug. 19
Jackson.....	do.....	E. E. Long.....	July 11	Aug. 13
Lamar.....	State Summer Normal School.....	J. M. Cousley.....	May 23	June 26
Lexington.....	State Summer Normal School (colored).	D. W. Ambrose.....	May 27	July 31
Meadville.....	State Summer Normal School.....	E. J. Green.....	May 30	July 2
Mendenhall.....	do.....	W. B. Huddleston.....		
Meridian.....	State Summer Normal School (colored).	W. P. Still.....	June 6	July 8
Mize.....	State Summer Normal School.....	S. H. McDonnical.....		
Natchez.....	State Summer Normal School (colored).	H. B. Blountwell.....	June 6	July 15
New Albany.....	do.....	B. L. Coulter.....	July 11	Aug. 13
Oxford.....	State Summer Normal School.....	M. F. Bush.....	do.	Do.
Port Gibson.....	State Summer Normal School (colored).	C. A. McAmis.....	June 13	July 13
Senatobia.....	do.....	J. N. Brinson.....	July 4	Aug. 4
Summit.....	do.....	J. M. Kenna.....	July 11	Aug. 13
NEW JERSEY.				
Collingswood.....	State Summer School.....	C. A. Philhower.....	June 26	July 29
Newton.....	do.....	Amos H. Flake.....	do.	Do.
Ocean City.....	do.....	James M. Stevens.....	do.	Do.
TEXAS.				
Alpine.....	State Summer Normal School.....	A. W. Evans.....	June 13	
Athens.....	do.....	J. J. Montgomery.....	do.	
Ballinger.....	do.....	John J. Bugg.....	do.	
Belton.....	do.....	J. H. Head.....	do.	
Brownwood.....	do.....	J. H. Hughes.....	do.	
Corpus Christi.....	do.....	C. W. Grisson.....	June 6	
El Paso.....	do.....	A. H. Hughey.....	do.	
Marshall.....	do.....	W. F. Garner.....	June 13	
Normangee.....	do.....	J. H. Wright.....	do.	
Palacios.....	do.....	N. A. Miller.....	June 20	
San Antonio.....	do.....	P. H. Underwood.....	do.	
VIRGINIA.				
Danville.....	Summer Institute for Colored Teachers.	M. C. Allen.....	July 1	July 31
Roanoke.....	do.....	W. F. Grasty.....	do.	Do.

## XVI.—DIRECTORS OF SUMMER SCHOOLS—Continued.

## IV. Y. M. C. A. AND Y. W. C. A. SUMMER SCHOOLS AND CAMPS.

Location.	Summer School.	Director in 1921.	Probable date of session in 1922.	
			Opening.	Closing.
Atascadero, Calif.....	Pacific Summer School.....	F. A. Jackson.....	July 21	Aug. 4
Hartford, Conn.....	Hillyer Institute.....	Roy M. Van Fleet.....	July 1	Aug. 10
Washington, D. C.....	Vacation School for Boys.....	Mark De Grange.....	June 26	Do.
Chicago, Ill.....	Central Preparatory School.....	H. C. Daines.....	June 1	Sept. 1
Do.....	Division Street Department of Y. M. C. A.	G. H. Cottrell.....	June 24	Aug. 14
Do.....	Wilson Avenue Y. M. C. A. School.....	Luther Smith.....	June 28	Aug. 20
Baltimore, Md.....	Association Institute.....	A. W. Richeson.....	June 15	Sept. 1
Boston, Mass.....	Huntington School.....	Charles H. Sampson.....	June 26	Sept. 8
Somerville, Mass.....	Y. M. C. A. Summer School.....	E. G. Blanchard.....	July 5	Aug. 16
Springfield, Mass.....	Y. M. C. A. College.....	Elmer Berry.....	June 26	July 29
Detroit, Mich.....	Detroit Institute of Technology.....	T. Paul Hickay.....	June 19	Aug. 11
Brooklyn, N. Y.....	Bedford Branch of the Y. M. C. A. Educational Institute.	Charles E. Conway.....	July 5	Aug. 18
Do.....	Marquand Summer School.....	Carroll N. Gibney.....	do.	Aug. 11
Blue Ridge, N. C.....	Southern College.....	W. D. Weatherford.....	June 14	Aug. 30
Philadelphia, Pa.....	Vacation School.....	A. G. Bugbee.....	June 27	Aug. 5
Scranton, Pa.....	Y. M. C. A. School.....	W. L. Betts.....	July 5	Aug. 10
Providence, R. I.....	Providence Y. M. C. A. School.....	Fred W. Ummer.....	do.	Aug. 28
Houston, Tex.....	Y. M. C. A. Summer School for Boys.....	C. K. Standish.....	May 22	July 1

## V. SUMMER SCHOOLS FOR TEACHERS OF EXCEPTIONAL CLASSES.

Northampton, Mass.	Clarke School for the Deaf.....	(No summer school, 1921.)		
Faribault, Minn.....	Minnesota School for Feeble Minded and Colony for Epileptics.	G. C. Hanna.....	July 1	Aug. 15
St. Louis, Mo.....	Central Institute for the Deaf.....	Julia M. Connery.....	June 19	July 19
Vineand, N. J.....	Summer School for Teachers of Backward or Mentally Deficient Children.	E. R. Johnstone.....	July 15	Aug. 20
Rome, N. Y.....	Rome State School.....	Charles Bernstein.....	July 1	July 31

## XVII.—EDUCATIONAL BOARDS AND FOUNDATIONS.

Name of board.	President.	Secretary.	Meeting.
American Field Service Fellowships for French Universities.	Paul D. Cravath, 52 William St., New York, N. Y.	Dr. I. L. Kandel, 522 5th Ave., New York, N. Y.	
American Foundation for the Blind.	H. Randolph Latimer, Pittsburgh, Pa.		
American-Scandinavian Foundation.	Hamilton Holt, 311 6th Ave., New York, N. Y.	Henry G. Leach, 25 West 45th St., New York, N. Y.	New York, N. Y., November 5, 1921.
Anna T. Jeanes Fund.....	James H. Dillard, Charlottesville, Va.	John T. Emlen, 328 Chestnut St., Philadelphia, Pa.	New York, N. Y., June, 1922.
Baron de Hirsch Fund....	Eugene S. Benjamin, 130 E. 25th St., New York, N. Y.	Max J. Kohler, 253 Broadway, New York, N. Y.	New York, N. Y.
Carnegie Corporation of New York.	Henry S. Pritchett (acting), 522 5th Ave., New York, N. Y.	James Bertram, 522 5th Ave., New York, N. Y.	New York, N. Y., November 16, 1922.
Carnegie Foundation for the Advancement of Teaching.	Henry S. Pritchett, 522 5th Ave., New York, N. Y.	Clyde Furst, 522 5th Ave., New York, N. Y.	New York, N. Y., November 16, 1921.
Character Education Institution.	Milton Fairchild, 3770 McKinley St., Washington, D. C.		
Commission for Relief in Belgium Educational Foundation.	Herbert Hoover, 42 Broadway, New York, N. Y.	George B. Baker, 42 Broadway, New York, N. Y.	New York, N. Y., December, 1921.
Commonwealth Fund, Educational Research Committee.	Max Farrand, Yale University, New Haven, Conn.	Samuel P. Capen, 618 Connecticut Ave., Washington, D. C.	New York, N. Y.

## XVII.—EDUCATIONAL BOARDS AND FOUNDATIONS—(Continued).

Name of board.	President.	Secretary.	Meeting.
David W. Gerard Memorial-Educational Aid Foundation.	Chas. H. Brough, Little Rock, Ark.	Gilbert Howell, Crawfordville, Ind.	
Fairhope Educational Foundation.	Mrs. Charles D. Lanier, Greenwich, Conn.	Miss E. E. Langley, Edgewood School, Greenwich, Conn.	New York, N. Y.
General Education Board.	Wallace Buttrick, 61 Broadway, New York, N. Y.	Abraham Flexner and Trevor Arnett, 61 Broadway, New York, N. Y.	
Henry C. Frick, Educational Commission.	W. Lucien Scaife, Granite Building, Pittsburgh, Pa.	George W. Gerwig, Fulton Building, Pittsburgh, Pa.	
John F. Slater Fund.....	James H. Dillard, Box 418, Charlottesville, Va.	Gertrude C. Mann, Box 418, Charlottesville, Va.	New York, N. Y., December, 1921.
Julius Rosenwald Fund..	Julius Rosenwald, Chicago, Ill.	Francis W. Shephardson, Chicago, Ill.	Chicago, Ill.
Kahn Foundation for the Foreign Travel of American Teachers.	Edward D. Adams, 71 Broadway, New York, N. Y.	Frank D. Fackenthal, Substation 84, New York, N. Y.	
Peabody Foundation for International Education Correspondence.	Mrs. Mary G. Howard, Lookout Mountain, Tenn.	Mrs. F. L. Underwood, 124 Morningside, Fenger Place, Chattanooga, Tenn.	
Phelps-Stokes Fund.....	I. N. Phelps-Stokes, 100 William St., New York, N. Y.	Anson Phelps-Stokes, Lenox, Mass.	New York, N. Y., November 16, 1922.
Rockefeller Foundation...	George E. Vincent, Lake Ave. and Parsonage Rd., Greenwich, Conn.	Edwin R. Embree, 47 Pierpoint St., Brooklyn, N. Y.	New York, N. Y., November 30, 1921.
Russell Sage Foundation.	Robert W. de Forest, 30 Broad St., New York, N. Y.	John M. Glenn, 130 East 22d St., New York, N. Y.	

## XVIII.—CHURCH EDUCATIONAL BOARDS AND SOCIETIES.

The following list shows, first, the name of the organization; second, the name and address of the president; third, the name and address of the secretary; fourth, the place and date of the next meeting.

- Council of Church Boards of Education in the United States: Rev. Paul Micon, 289 Fourth Avenue, New York, N. Y.; Robert L. Kelly, 111 Fifth Avenue, New York, N. Y.; Chicago, Ill., January 3-5, 1922.
- American Christian Convention, Department of Education: Rev. W. T. Walters, 1615 Garland Avenue, Richmond, Va.; Rev. W. O. Sargent, 138 Lenox Avenue, Providence, R. I.; Burlington, N. C., November, 1922.
- Church of the Brethren, General Educational Board: D. W. Kurtz, McPherson, Kans.; J. S. Noffsinger, 358 Sixtieth Street, Brooklyn, N. Y., Elgin, Ill., March 8, 1922.
- Church of the United Brethren in Christ, Board of Education: Rev. C. J. Kephart, 3936 Harrison Avenue, Kansas City, Mo.; William E. Schell, U. B. Building, Dayton, Ohio; Dayton, Ohio, May, 1922.
- Congregational Education Society: Rev. Charles R. Brown, Yale School of Religion, New Haven, Conn.; F. M. Sheldon, 14 Beacon Street, Boston, Mass.; June, 1922.
- Disciples of Christ, Board of Education: A. D. Harmon, Cotner College, Bethany, Nebr.; H. O. Pritchard, 222 Downey Avenue, Indianapolis, Ind.; Chicago, Ill., January 12, 1922.
- Mennonites of North America, General Conference, Board of Education: S. K. Mosiman, Bluffton, Ohio; J. H. Langenwelter, Newton, Kans.
- Methodist Episcopal Church, Board of Education: Rev. William F. McDowell, Washington, D. C.; A. W. Harris, 150 Fifth Avenue, New York, N. Y.; New York, N. Y., December 6, 1921.
- Methodist Episcopal Church South, Board of Education: Rev. W. B. Murrah, Memphis, Tenn.; Stonwall Anderson, Nashville, Tenn.
- Methodist Protestant Church, Board of Education: J. W. Knott, New Brighton, Pa.; Rev. George H. Miller, 613 West Diamond Street, N. S., Pittsburgh, Pa.; Pittsburgh, Pa., May 18, 1922.
- Northern Baptist Convention, Board of Education: Ernest D. Burton, 5725 Woodlawn Avenue, Chicago, Ill.; Frank W. Padelford, 276 Fifth Avenue, New York, N. Y.
- Presbyterian Church in the United States of America, General Board of Education: Rev. Hugh T. Kerr, 222 Anderson Avenue, Pittsburgh, Pa.; Rev. Edgar P. Hill, 156 Fifth Avenue, New York, N. Y.; New York, N. Y., April 28, 1922.
- Presbyterian Church in the United States (Southern), Executive Committee of Education: Henry H. Sweets, 410 Urban Building, Louisville, Ky.; D. S. Gage, 410 Urban Building, Louisville, Ky.; Montreal, N. C., July, 1922.
- Protestant Episcopal Church, Department of Religious Education: Rt. Rev. T. F. Gallor, 281 Fourth Avenue, New York, N. Y.; Rev. William E. Gardner, 280 Fourth Avenue, New York, N. Y.; New York, N. Y., October, 1921.
- Reformed Church in America, Board of Education: Rev. A. T. Broek, 427 Halsey Street, Newark, N. J.; Rev. Willard D. Brown, 25 East 22d Street, New York, N. Y.; New York, N. Y., September 27, 1921.
- Seventh-Day Adventists, Department of Education: Secretary, W. E. Howell, Takoma Park, Washington, D. C.
- Seventh-Day Baptist Education Society: Rev. William C. Whitford, Alfred, N. Y.; Earl P. Saunders, Alfred, N. Y.; Alfred, N. Y., September 13, 1922.
- Society of Friends, 5-Years' Meeting, Board of Education: David M. Edwards, Earlham College, Richmond, Ind.; J. Edwin Jay, Wilmington College, Wilmington, Ohio.

Society of Friends, General Conference; Committee on Education: Thomas A. Jenkins, 5411 Greenwood Avenue, Chicago, Ill.; Mrs. Ida P. Stabler, 154 North Fifteenth Street, Philadelphia, Pa.; Cape May, N. J., July, 1922.  
 Southern Baptist Convention, Education Board: Frank S. White, Sr., 1407 Jefferson County Building, Birmingham, Ala.; W. C. James, Jefferson County Building, Birmingham, Ala.; Birmingham, Ala., May, 1922.  
 United Lutheran Church in America, Board of Education: Rev. A. J. Turkle, Stookton Avenue and Arch Street, Pittsburgh, Pa.; Rev. F. G. Gotwald, York, Pa.; Washington, D. C., December, 1921.  
 United Presbyterian Church, Board of Education: David F. Matchet, 6133 Ellis Avenue, Chicago, Ill. J. E. Bradford, 1344 East Sixty-Third Street, Chicago, Ill.; Chicago, Ill., December, 1921.

### XIX.—JEWISH EDUCATIONAL ORGANIZATIONS.

The following list shows, first, the name of the association; second, the name and address of the president; third, the name and address of the secretary; fourth, the place and date of the next meeting.

#### 1. National.

Central Conference of American Rabbis, Religious Education Committee: Council of Jewish Women; Mrs. Enoch Raub, 5837 Bartlett Street, Pittsburgh, Pa.; Mrs. Leon G. Ball, 6725 McPherson Boulevard, Pittsburgh, Pa.; Pittsburgh, Pa., October, 1921.  
 Educational League for the Higher Education of Orphans: Alfred A. Benesch, Society for Savings Building, Cleveland, Ohio; Eugene E. Wolf, 336 Engineers Building, Cleveland, Ohio; Cleveland, Ohio, probably September, 1921.  
 Jewish Chautauque Society: Arthur K. Stern, 428 North Third Street, Philadelphia, Pa.; Jeannette M. Goldberg, 1305 Stephen Girard Building, Philadelphia, Pa.; Dallas, Texas, December 25-30, 1921.  
 Union of American Hebrew Congregations; Board of Managers of Synagogue and School Extension: Charles Shohl, 1314 First National Bank, Cincinnati, Ohio; George Zepin, 62 Dutton Hufer Building, Cincinnati, Ohio; New York, N. Y., January 16-18, 1923.

#### 2. City.

Bureau of Education of the Jewish Community of New York City: Judah L. Magnes, 114 Fifth Avenue; Samson Benderly, 114 Fifth Avenue.  
 Educational Alliance (New York City): Samuel Greenbaum, 27 Madison Avenue; Bernard M. L. Ernst, 25 West 43d Street.  
 Hebrew Education Society (Newark, N. J.): Moses Roth, 366 Grove Road, South Orange; Samuel Roessler, 174 Littleton Avenue.  
 Hebrew Education Society of Philadelphia (Pa.): Clarence L. Marks, 146 North Thirteenth Street; Bernard Harris, 609-610 Stephen Girard Building.  
 Jewish Community Center: Maurice Weil, 14th and Locust Streets; Walter Marx, 11th and Washington Streets.

### XX.—SUPERINTENDENTS OF CATHOLIC PAROCHIAL SCHOOLS.

(Archdioceses are indicated by an asterisk (\*).)

Diocese or archdiocese.	Name and title of supervising officer.	Address.
Albany, N. Y.	Rev. Joseph A. Dunney, inspector of schools.	454 Western Ave., Albany, N. Y.
Baker City, Oreg.	Rev. Hugh J. Marshall, diocesan inspector of schools.	Klamath Falls, Oreg.
*Baltimore, Md.	Rev. Lawrence A. Brown, superintendent (Baltimore City).	Catonsville, Baltimore, Md.
*Boston, Mass.	Rev. Augustine F. Hickey, diocesan supervisor of schools.	75 Union Park St., Boston, Mass.
Brooklyn, N. Y.	Rev. Joseph V. S. McClancy, inspector of schools.	749 Linwood St., Brooklyn, N. Y.
Buffalo, N. Y.	Rev. Francis T. Kanaley, superintendent of parochial schools.	1974 Seneca St., Buffalo, N. Y.
Chicago, Ill.	Rev. John Ford, superintendent of schools.	1648 West Grand Ave., Chicago, Ill.
*Cincinnati, Ohio.	Rev. William Schmitt, superintendent of parochial schools.	734 Hawthorne St., Cincinnati, Ohio.
Cleveland, Ohio.	Rev. William A. Kane, diocesan superintendent of parochial schools.	1027 Superior Ave. NE., Cleveland, Ohio.
Columbus, Ohio.	Rev. John J. Murphy, superintendent of schools.	414 North Broadway, Columbus, Ohio.
Crookston, Minn.	Rev. Thomas G. Merrill, diocesan superintendent of schools.	Red Lake Falls, Minn.
Erie, Pa.	Rev. Joseph Wehrle, superintendent of schools.	Erie, Pa.
Fall River, Mass.	Rev. Francis J. Bradley, diocesan school supervisor.	274 2d St., Fall River, Mass.
	Rev. L. Damase Robert, diocesan school supervisor.	889 Pine St., Fall River, Mass.
Fargo, N. Dak.	Rev. John Baker, inspector of schools.	Valley City, N. Dak.
Fort Wayne, Ind.	Rev. A. E. Lafontaine, superintendent of schools.	1140 Clinton St., Fort Wayne, Ind.
Galveston, Tex.	Rev. J. B. O'Leary, diocesan director of schools.	Tenth and Harvard Sts., Houston, Tex.
Grand Rapids, Mich.	Rev. James D. Kenny, diocesan superintendent of schools.	733 Bridge St., Grand Rapids, Mich.
Hartford, Conn.	Rev. Edwin A. Flynn, superintendent of schools.	St. Marys Home, Hartford, Conn.

## XX.—SUPERINTENDENTS OF CATHOLIC PAROCHIAL SCHOOLS—Continued.

Diocese or archdiocese.	Name and title of supervising officer.	Address.
Helena, Mont.....	Rev. John J. Tracy, diocesan superintendent of schools.	Mt. St. Charles College, Helena, Mont.
Lafayette, La.....	Rev. Anthony F. Isenberg, superintendent of schools.	Crowley, La.
Little Rock, Ark.....	Rev. Herbert A. Heagney, superintendent..	Pulaski Heights, Little Rock, Ark.
Manchester, N. H.....	Rev. Wilfrid J. Lessard, superintendent of schools.	86 Arlington St., Manchester, N. H.
Nashville, Tenn.....	Rev. S. A. Stritch, supervisor of diocesan schools.	2001 West End Ave., Nashville, Tenn.
*New Orleans, La.....	Rev. F. X. Twellmeyer, S. J., superintendent	6363 St. Charles Ave., New Orleans, La.
*New York, N. Y.....	Rev. Joseph F. Smith, superintendent of schools.	328 West 14th St., New York, N. Y.
	Rev. Edward J. Flynn, superintendent of schools (Westchester County).	
*New York, N. Y.....	Rev. John P. McClancy, superintendent of schools (Orange and Rockland Counties).	
	Rev. John J. Hickey, superintendent of schools (Ulster and Sullivan Counties).	
	Rev. Joseph F. Sheahan, superintendent of schools (Putnam and Dutchess Counties).	
Newark, N. J.....	Rev. John A. Dillon, superintendent of schools.	891 Washington St., Newark, N. J.
	Rev. William F. Lawlor, assistant superintendent of schools.	691 Westside Ave., Jersey City, N. J.
Omaha, Nebr.....	Rev. J. Ruessing, inspector of schools.....	Westpoint, Nebr.
*Oregon City, Oreg.....	Rev. Edwin V. O'Hara, diocesan superintendent of school.	Eugene, Oreg.
*Philadelphia, Pa.....	Rev. John E. Flood, superintendent of parochial schools.	242 South 20th St., Philadelphia, Pa.
	Rev. Joseph M. O'Hara, assistant superintendent of parochial schools.	1429 North 11th St., Philadelphia, Pa.
Pittsburgh, Pa.....	Rev. Ralph L. Hayes, superintendent of schools.	118 North Dithridge St., Pittsburgh, Pa.
Rochester, N. Y.....	Rev. Joseph S. Cameron, superintendent of schools.	Bath, N. Y.
*St. Louis, Mo.....	Rev. James P. Murray, superintendent of parish schools.	2122 South 12th St., St. Louis, Mo.
	Rev. P. J. Ritchie, superintendent of high schools.	1414 O'Fallon St., St. Louis, Mo.
San Antonio, Calif.....	Rev. J. Weckesser, school superintendent...	St. Mary's College, San Antonio, Tex.
*San Francisco, Calif....	Rev. Ralph Hunt, superintendent of schools.	Y. M. I. Building, Oak St., San Francisco, Calif.
Scranton, Pa.....	Rev. J. A. Boyle, superintendent of schools..	1427 College Ave., Scranton, Pa.
Springfield, Mass.....	Rev. John F. Conlin, diocesan school visitor.	Chicopee, Mass.
	Rev. P. F. Doyle, assistant diocesan school visitor.	Brookfield, Mass.
Syracuse, N. Y.....	Rev. Charles F. McEvoy, superintendent of schools.	259 East Onondaga St., Syracuse, N. Y.
Toledo, Ohio.....	Rev. Francis MacElwane, diocesan superintendent of parochial schools.	2533 Collingwood Ave., Toledo, Ohio.
Trenton, N. J.....	Rev. Patrick J. Clune, superintendent of parochial schools.	43 Manning Ave., North Plainfield, N. J.

## XXI.—DIRECTORS OF SCHOOLS FOR SOCIAL WORKERS.

Location.	Name of institution.	Director.
Washington, D. C..	National Service School for Women.....	Chas. P. Neill.
Chicago, Ill.....	School of Social Service (University of Chicago).....	L. C. Marshall.
New Orleans, La..	School of Social Service (Newcomb College, Tulane University).	R. J. Colbert.
Boston, Mass.....	School of Social Work (Simmons College).....	Stuart A. Quess.
St. Louis, Mo.....	Missouri School of Social Economy.....	Geo. B. Mangold.
New York, N. Y.....	New York School of Social Work.....	Porter R. Lee.
Chapel Hill, N. C..	School of Public Welfare (University of North Carolina).....	Howard W. Odum.
Cleveland, Ohio..	School of Applied Social Sciences (Western Reserve University).	James E. Cutler.
Philadelphia, Pa..	Pennsylvania School for Social Service.....	Joseph K. Hart.
Richmond, Va.....	School of Social Work and Public Health.....	J. J. Scherer, jr.

## XXII.—INTERNATIONAL ASSOCIATIONS OF EDUCATION.

The following list shows, first, the name of the association; second, the name and address of the president; third, the name and address of the secretary; fourth, the place and date of the next meeting:

- American Congress on Economic Expansion and Commercial Education: Pablo Fontana, Montevideo, Uruguay; Eduardo Vázquez, Montevideo, Uruguay; Rio Janeiro, Brazil, 1922.
- American University Union in Europe: H. P. Judson, University of Chicago; Chicago, Ill.; J. W. Cunliffe, Columbia University, New York, N. Y.
- International Association of Teachers of Printing: Harry J. Burns, 22 Grant Street, Newark, N. J.; Lester I. Dygert, P. O. Box 1, Springfield, Mass.
- Institute of International Education: Stephen P. Duggan, 419 West One hundred and seventeenth Street, New York, N. Y.; Miss Mary L. Waite, 419 West One hundred and seventeenth Street, New York, N. Y.
- International Commission on the Teaching of Mathematics: G. Klein, Göttingen, Germany; H. Fehr, Geneva, Switzerland.
- International Federation of Catholic Alumnae: Mrs. John M. Enery, 2005 Seventh Avenue, Moline, Ill.; Florence A. Colford, 1512 H Street N.W., Washington, D. C.; Louisville, Ky., October, 1922.
- International Federation of University Women: Caroline F. E. Spurgeon, Bedford College, London, England; Theodora Boanquet, 66 Avenue Chambers, Vernon Place, London, W. C., England; Paris, July, 1922.
- International Sunday School Association: W. O. Thompson, Ohio State University, Columbus, Ohio; Herbert L. Hill, 150 Fifth Avenue, New York, N. Y.; Philadelphia, July 13, 1921.
- International Kindergarten Union: Luella A. Palmer, 510 West One hundred and twenty-third Street, New York, N. Y.; May Murray, 40 High Street, Springfield, Mass.; Louisville, Ky., last of April, 1922.
- International Sunday School Association: William O. Thompson, Ohio State University, Columbus, Ohio; Marion Lawrence, 1516 Mallers Building, Chicago, Ill.; Kansas City, Mo., June, 1922.
- Union Académique Internationale: E. C. Armstrong, Princeton, N. J.; John Erskine, Columbia University, New York, N. Y.
- Union des Associations Internationales: Cooreman, 161 Avenue Louise, Brussels, Belgium; Paul Otlet, Palais Mondial, Brussels, Belgium; Brussels, August 23, 1921.
- World's Student Christian Federation: John R. Mott, 342 Madison Avenue, New York, N. Y.; Ruth Rouse, 28 Lancaster Road, Wimbledon London, SW., England; Peking, China, April, 1922.

## XXIII.—AMERICAN EDUCATIONAL ASSOCIATIONS.

The following list shows, first, the name and address of the association; second, the name and address of the president; third, the name and address of the secretary; fourth, the place and date of the next meeting.

1. *National and sectional.*

- Alumni Association of American Rhodes Scholars: Leonard W. Cronkhite, 142 Berkeley Street, Boston, Mass.; Frank Aydelotte, Swarthmore College, Swarthmore, Pa.
- American Association for the Advancement of Agricultural Teaching: Aretas W. Nolan, Urbana, Ill.; C. D. Jarvis, Grimsby, Ontario, Canada.
- American Association for the Advancement of Science, Section S: G. M. Whipple, Ann Arbor, Mich.; B. T. Baldwin, University of Iowa, Iowa City, Iowa; Toronto, Canada, December 27-30, 1921.
- American Association for the Study of the Feeble Minded: Joseph Ladd, Exeter School, Slocum, R. I.; Benjamin W. Baker, School for Feeble Minded, Laconia, N. H.
- American Association of Agricultural College Editors: Carl R. Woodward, New Brunswick, N. J.; M. V. Atwood, Cornell University, Ithaca, N. Y.; Blacksburg, Va.
- American Association of College News Bureaus: Bristow Adams, Cornell University, Ithaca, N. Y.; Joseph F. Wright, University of Illinois, Urbana, Ill.; St. Louis or Chicago, Christmas Holidays, 1921.
- American Association of Collegiate Registrars: A. G. Hall, University of Michigan, Ann Arbor, Mich.; Raymond Walters, Lehigh University, Bethlehem, Pa.
- American Association of Farmers' Institute Workers: J. W. Neill, Austin, Tex.; Wesley Webb, Dover, Del.
- American Association of Instructors of the Blind: Edward M. Van Cleve, Thirty-fourth Street and Ninth Avenue, New York, N. Y.; C. A. Hamilton, Batavia, N. Y.; June, 1922.
- American Association of Junior Colleges: G. F. Winfield, Greenville, Tex.; Martha M. Read, Fulton, Mo.; Memphis, Tenn.
- American Association of Teachers Colleges: David Felmley, Normal, Ill.; J. G. Crabbe, Greeley, Colo.
- American Association of Teachers of Journalism: Willard Beyer, University of Wisconsin, Madison, Wis.; Prof. Crawford, Kansas State Agricultural College, Manhattan, Kans.; Madison, Wis., December 27-29, 1921.
- American Association of Teachers of Spanish: J. D. Fitzgerald, Urbana, Ill.; Alfred Coester, Stanford University, Calif.; December 27, 1921.
- American Association of University Professors: E. R. A. Selligman, 324 West Eighty-sixth Street, New York, N. Y.; H. W. Tyler, 222 Charles River Road, Cambridge, Mass.; Pittsburgh, Pa., December 30-31, 1921.
- American Association of University Women: Ada Comstock, Smith College, Northampton, Mass.; Mrs. Gertrude S. Martin, 934 Stewart Avenue, Ithaca, N. Y.; Kansas City, Mo.; March or April, 1922.
- American Association to Promote the Teaching of Speech to the Deaf: Harris Taylor, 904 Lexington Avenue, New York, N. Y.; H. M. McManaway, Staunton, Va.
- American Bar Association, Section of Legal Education: Elhuz Root, 31 Nassau Street, New York, N. Y.; John B. Sanborn, Gay Building, Madison, Wis.
- American Classical League: Andrew F. West, Princeton, N. J.; Shirley H. Weber, Princeton, N. J.; June or July, 1922.
- American Conference of Pharmaceutical Faculties: Clare A. Dye, Columbus, Ohio; Theodore J. Bradley, 179 Longwood Avenue, Boston, Mass.; Cleveland, Ohio, August, 1922.
- American Council of Learned Societies devoted to Humanistic Studies: Charles H. Haskins, Harvard University, Cambridge, Mass.; John Erskine, Columbia University, New York, N. Y.; New York, N. Y., October, 1921.
- American Council of Education: David Kinley, University of Illinois, Urbana, Ill.; Virginia C. Gilder-sleeve, Barnard College, New York, N. Y.; May 5, 1922.
- American Federation of Arts: Robert W. de Forest, 30 Broad Street, New York, N. Y.; Miss Leila Mechlin, 1741 New York Avenue, Washington, D. C.; Probably Washington, D. C., May, 1922.



- American Federation of Teachers: Charles B. Stillman, 1620 Lal e Avenue, Wilmette, Ill.; F. G. Stecker, 1618 Lake Avenue, Wilmette, Ill.; December, 1921.
- American Federation of Teachers of the Mathematical and the Natural Sciences: C. R. Mann, 1505 Emerson Street N.W., Washington, D. C.; William A. Hedrick, Central High School, Washington, D. C.; Toronto, Canada, December 28, 1921.
- American Home Economics Association: Mary E. Sweeney, Michigan Agricultural College, East Lansing, Mich.; Lenna F. Cooper, School of Home Economics, Battle Creek, Mich.; Corvallis, Oreg., July 3-8, 1922.
- American Humane Education Society: Francis H. Rowley, 180 Longwood Avenue, Boston, Mass.; Guy Richardson, 180 Longwood Avenue, Boston, Mass.; Boston, Mass., March, 1922.
- American Institute of Dental Teachers: G. S. Millberry, University of California, San Francisco, Calif.; Abram Hoffman, 381 Linwood Avenue, Buffalo, N. Y.; Montreal, Quebec, Canada, January 23-25, 1922.
- American Medical Association, Council on Medical Education and Hospitals: Arthur D. Bevan, Chicago, Ill.; Nathan P. Colwell, 535 North Dearborn Street, Chicago, Ill.; Chicago, Ill., March 6-9, 1922.
- American Nature-Study Society: J. Andrew Drushel, Harris Teachers College, St. Louis, Mo.; Anna B. Comstock, Cornell University, Ithaca, N. Y.
- American Physical Education Association: Dudley B. Reed, University of Chicago, Chicago, Ill.; J. H. McCurdy, Box 122, Highland Station, Springfield, Mass.; Detroit, Mich., 1922.
- American Posture League: Jessie H. Bancroft, 164 Sterling Place, Brooklyn, N. Y.; Henry L. Taylor, 125 West Fifty-eighth Street, New York, N. Y.; New York, N. Y., March, 1922.
- American School Citizenship League: Randall J. Condon, Cincinnati, Ohio; Fannie F. Andrews, 405 Marlborough Street, Boston 17, Mass.; with the National Education Association, July, 1922.
- American School Hygiene Association: William A. Howe, Albany, N. Y.; Harry B. Burns, 110 Fulton Building, Pittsburgh, Pa.; New York, N. Y., November 16-18, 1921.
- American Society for the Extension of University Teaching: Roland S. Morris, 1617 Land Title Building, Philadelphia, Pa.; William K. Huff, Academy of Music, Philadelphia, Pa.; Academy of Music, Philadelphia, Pa.
- Army Educational Corps: Frank E. Spaulding, Yale University, New Haven, Conn.; George F. James, 210 Mallors Building, Chicago, Ill.; with the Department of Superintendence, National Education Association, February, 1922.
- Associated Harvard Clubs: E. M. Grossman, 820 Riako Building, St. Louis, Mo.; George A. Morison, South Milwaukee, Wis.; Boston, Mass., June, 1922.
- Association of Alumni Secretaries: Walter R. Okeson, Lehigh University, Bethlehem, Pa.; J. L. Morrill, Ohio Union, Columbus, Ohio; April or May, 1922.
- Association of American Colleges: Clark W. Chamberlain, Denison University, Granville, Ohio; Raymond M. Hughes, Miami University, Oxford, Ohio; Chicago, Ill., January, 1922.
- Association of American Law Schools: Arthur L. Corbin, Yale Law School, New Haven, Conn.; Henry C. Jones, University of Illinois, Urbana, Ill.; Chicago, Ill., December 29-31, 1921.
- Association of American Library Schools: P. L. Windsor, University of Illinois Library Schools, Urbana, Ill.; Margaret Williams, New York State Library School, Albany, N. Y.; July 7, 1921.
- Association of American Medical Colleges: Theodore Hough, Charlottesville, Va.; Fred C. Zapffe, 3431 Lexington Street, Chicago, Ill.; March 6-9, 1922.
- Association of American Universities: E. R. Lindley, University of Kansas, Manhattan, Kans.; David A. Robertson, University of Chicago, Chicago, Ill.; Columbia, Mo., November, 1921.
- Association of Biblical Instructors in American Colleges and Secondary Schools: Charles F. Kent, Yale University, New Haven, Conn.; T. R. Hyde, Hill School, Pottstown, Pa.; New York, N. Y., last week in December, 1921.
- Association of Business Officers of the Universities and Colleges of the Middle West: Lloyd Morey, University of Illinois, Urbana, Ill.; W. H. Bates, University of Iowa, Iowa City, Iowa; May, 1922.
- Association of Church Directors of Religious Education: George S. Yaple, Blaine Avenue, Detroit, Mich.; Mary Lawrence, Islington Road, Auburndale, Mass.; Toronto, Canada, probably March, 1922.
- Association of Colleges and Preparatory Schools of the Middle States and Maryland: William M. Irvine, Mercersburg Academy, Mercersburg, Pa.; George W. Mclelland, University of Pennsylvania, Philadelphia, Pa.; Swarthmore College, Friday and Saturday following Thanksgiving, 1921.
- Association of Colleges and Secondary Schools of the Southern States: J. H. Kirkland, Vanderbilt University, Nashville, Tenn.; Edward A. Bechtel, Tulane University, New Orleans, La.; Birmingham, Ala., December 1-2, 1921.
- Association of Colleges for Negro Youth: J. L. Peacock, Shaw University, Raleigh, N. C.; J. T. Cater, Talladega College, Talladega, Ala.; Wilberforce University, Ohio, November, 1921.
- Association of Collegiate Schools of Architecture: Emil Lorch, University of Michigan, Ann Arbor, Mich.; Clarence A. Martin, Cornell University, Ithaca, N. Y.
- Association of Collegiate Schools of Business: Emory R. Johnson, University of Pennsylvania, Philadelphia, Pa.; Morton A. Aldrich, Tulane University, New Orleans, La.; Philadelphia, May, 1922.
- Association of Directors of Physical Education for Women: Katharine Sibley, Syracuse University, Syracuse, N. Y.; Alice Belden, Randolph-Macon College, Lynchburg, Va.; Bryn Mawr, Pa., April, 1922.
- Associations of Friends' Schools: John Carver, Friends' School, New York, N. Y.; Murtis B. Muschamp, Seventeenth Street and Girard Avenue, Philadelphia, Pa.
- Association of History Teachers of the Middle States and Maryland: Albert K. Hackel, Lafayette College, Easton, Pa.; Nellie P. Ferry, 4818 Warrington Avenue, Philadelphia, Pa.
- Association of Institutions giving Normal Instruction in Physical Education: C. Ward Crampton, 18 East Seventy-eighth Street, New York, N. Y.; Mrs. Frances O. Hester, American College of Physical Training, Chicago, Ill.
- Association of Junior Colleges: George F. Winfield, Wesley College, Greenville, Tex.; Martha MacKenzie Reid, William Woods College, Fulton, Mo.; Memphis, Tenn., February 25, 1922.
- Association of Land Grant Colleges: R. A. Pearson, Iowa State College, Ames, Iowa; J. L. Hill, University of Vermont, Burlington, Vt.; New Orleans, La., November 8-10, 1921.
- Association of Military Colleges and Schools: E. W. Nichols, Lexington, Va.; Col. R. P. Davidson, Lake Geneva, Wis.; Washington, D. C., 1921.
- Association of Modern Language Teachers of the Central West and South: A. B. Hohlfield, Madison, Wis.; C. H. Handschin, 109 South Poplar Street, Oxford, Ohio; Chicago, Ill., May, 1922.
- Association of Modern Language Teachers of the Middle States and Maryland: Anna Woods Ballard, Teachers College, Columbia University, New York, N. Y.; Henry G. Doyle, George Washington University, Washington, D. C.; Swarthmore, Pa., November 26, 1921.
- Association of Presidents and Past Presidents of State and National Music Teachers' Association: Harold L. Butler, University of Kansas, Lawrence, Kans.; Walter Spry, 309 South Wabash Avenue, Chicago, Ill.; Detroit, Mich., December 27, 1921.
- Association of Schools, Colleges, and Seminaries of the Reformed Church: Henry H. Apple, Lancaster, Pa.; George L. Omwake, Collegeville, Pa.

- Association of Teachers of Mathematics in New England:** Walter F. Downey, English High School Annex, Boston, Mass.; Harry D. Gaylord, 448 Audubon Road, Boston, Mass.; Boston, Mass., December 3, 1921.
- Association of Teachers of Mathematics in the Middle States and Maryland:** W. E. Breckenridge, Stuyvesant High School, New York, N. Y.; C. B. Wahl, Friends' Central School, Philadelphia, Pa.
- Association of Urban Universities:** Charles S. Howe, Case School of Applied Science, Cleveland, Ohio; Frederick B. Robinson, College of the City of New York; Cleveland, Ohio: November 17-19, 1921.
- BI-State Educational Club:** R. H. Jordan, Dartmouth College, Hanover, N. H.; T. E. Bacon, High School, Hanover, N. H.
- Catholic Educational Association:** T. J. Shahan, Catholic University, Washington, D. C.; F. W. Howard, Columbus, Ohio.
- Central Association of Science and Mathematics Teachers:** Walter W. Hart, University of Wisconsin, Madison, Wis.; Glen W. Warner, Englewood High School, Chicago, Ill.; St. Louis, Mo., November 25-26, 1921.
- Chinese Students' Alliance in the United States of America:** M. J. Baul, Johns Hopkins University, Baltimore, Md.; G. C. Chen, University of Chicago, Chicago, Ill.
- Classical Association of New England:** D. S. Lowell, Roxbury Latin School, Roxbury, Boston, Mass.; M. N. Wetmore, Williamstown, Mass.: April, 1922.
- Classical Association of the Atlantic States:** Helen H. Tanzen, Hunter College, New York, N. Y.; Charles Knapp, Barnard College, New York, N. Y.
- Classical Association of the Middle West and South:** Charles H. Wheeler, University of Iowa, Iowa City, Iowa; Rollin H. Tanner, Denison University, Granville, Ohio.
- Classical Association of the Middle West and South, Southern Branch:** George Howe, Chapel Hill, N. C.; E. L. Green, Columbus, S. C.; Atlanta, Ga., probably February, 1922.
- Classical Association of the Pacific States, Northern Section:** Harold L. Axtell, University of Idaho, Moscow, Idaho; Julianna A. Roller, Franklin High School, Portland, Oreg.; Walla Walla, Wash., November 25-26, 1921.
- College Art Association of America:** David M. Robinson, Johns Hopkins University, Baltimore, Md.; John Shapley, Brown University, Providence, R. I.
- College Conference on English in the Central Atlantic States:** E. P. Kuhl, Goucher College, Baltimore, Md.; W. O. Sypherd, University of Delaware, Newark, Del.; Swarthmore, Pa., November 26, 1921.
- College Entrance Examination Board:** Howard McClenahan, Princeton University, Princeton, N. J.; Thomas S. Fiske, 431 West One hundred and seventeenth Street, New York, N. Y.; New York, N. Y., November 5, 1921.
- Committee of Fifteen on Educational Preparation for Foreign Service (with Advisory Council):** Glen Levin Swiggett, U. S. Bureau of Education, Washington, D. C.
- Committee on Friendly Relations among Foreign Students:** Secretary, Charles D. Durrey, 347 Madison Avenue, New York, N. Y.
- Conference of Church Workers in Universities:** William Houston, 54 Fifteenth Avenue, Columbus, Ohio; Vernon S. Phillips, 176 W. Ninth Avenue, Columbus, Ohio; Chicago, Ill., January, 1922.
- Conference of Colleges of the Interior:** W. H. Rollins, Wichita, Kans.; E. Lee Howard, Fargo, N. Dak.; Chicago, Ill., January, 1922.
- Conference of Superintendents and Principals of Schools for the Deaf in the United States and Canada:** Isaac B. Gardner, 99 Fort Washington Avenue, New York, N. Y.; Ignatius Bjorlee, Frederick, Md.
- Convention of American Instructors of the Deaf:** Percival Hall, Gallaudet College, Washington, D. C.; Ignatius Bjorlee, Frederick, Md.
- Corda Fratern Association of Cosmopolitan Clubs:** Harold J. Leonard, 515 Syndicate Building, Minneapolis, Minn.; Mrs. M. Frances Pierce, University of Minnesota, Minneapolis, Minn.; Minneapolis, Minn., December 27-29, 1921.
- Council on Management Education:** Hollis Godfrey, 639 Drexel Building, Philadelphia, Pa.; C. L. Eyanson, 639 Drexel Building, Philadelphia, Pa.; Philadelphia, Pa., October 1, 1921.
- Drama League of America:** John M. Stahl, 3401 South Michigan Avenue, Chicago, Ill.; Alice M. Houston, 1426 Forest Avenue, Evanston, Ill.
- Eastern Arts Association:** Fred P. Keagle, Montclair, N. J.; Frank E. Mathewson, Dickinson High School, Jersey City, N. J.; Rochester, N. Y., April 6-8, 1922.
- Eastern Association of Physics Teachers:** Charles E. Stratton, Mechanic Arts High School, Boston, Mass.; George A. Cushman, English High School, Boston, Mass.; November, 1921.
- Eastern Commercial Teachers Association:** D. A. McMullin, Central High School, Newark, N. J.; F. A. Tibbetts, Dickinson High School, Jersey City, N. J.; Trenton, N. J., April 13-15, 1922.
- Eastern Music Supervisors' Conference:** Harry E. Whittemore, Manchester, N. H.; Pauline A. Meyer, New Britain, Conn.
- Educational Aid Society:** Harry J. Myers, 122 South Michigan Avenue, Chicago, Ill.; Leila E. Peterson, 3726 Herndon Street, Chicago, Ill.
- Educational Association of College Presidents of the Methodist Episcopal Church:** A. B. Storms, Berea, Ohio; Robert J. Trevorrow, Hackettstown, N. J.; January, 1922.
- Educational Press Association of America:** Henry G. Williams, Columbus, Ohio; George L. Towne, 1126 Q Street, Lincoln, Neb.; with the Department of Superintendence, National Education Association.
- Farmers' Educational Cooperative Union:** C. S. Barrett, Union City, Ga.; A. C. Davis, Gravette, Ark.; November 15-17, 1921.
- Federation for American Childhood:** Louis W. Rapser, 20 Jackson Place, Washington, D. C.; Marjorie Vandewater, 20 Jackson Place, Washington, D. C.; Washington, D. C., June 10, 1922.
- Federation for Child Study:** Mrs. Howard S. Gans, 260 West Seventy-Sixth Street, New York, N. Y.; Mrs. Jesse W. Ehrich, 393 West End Avenue, New York, N. Y.; November 2, 1921.
- Heads Masters' Association:** Eugene C. Alder, 282 Lafayette Avenue, Brooklyn, N. Y.; William B. Snow, 106 Elm Street, Stoneham, Mass.; New York, N. Y., February 10-11, 1922.
- Head Mistresses Association of the Middle West:** Mrs. Arthur E. Lyman, 9209 Euclid Avenue, Cleveland, Ohio; Mary E. Raymond, 1945 East Ninety-seventh Street, Cleveland, Ohio; Toledo, Ohio, November, 1921.
- Inland Empire Council of Teachers of English:** Ralph Tiele, State Normal, Cheney, Wash.; Pearle Anderson, The Lewis and Clark High School, Spokane, Wash.; Spokane, Wash., Easter Vacation.
- Inland Empire Teachers' Association:** D. A. Grout, 405 Court House, Portland, Oreg.; J. A. Burke, Spokane, Wash.; Spokane, Wash., April 5-7, 1922.
- Intercollegiate Vocational Guidance Association:** Catherine Filene, 1 West Hill Place, Boston, Mass.; Irma E. Voigt, 1 West Hill Place, Boston, Mass.; Columbus, Ohio, November, 1921.
- Lake Mohonk Indian Conference:** Secretary, H. C. Phillips, Mohonk Lake, N. Y.
- Middle West Society of Physical Education and Hygiene:** W. J. Monilaw, University of Chicago, Chicago, Ill.; Margaret McKee, Des Moines, Iowa, Des Moines, Iowa, February, 1922.
- Missionary Education Movement of the United States and Canada:** William F. Schell, 156 Fifth Avenue, New York, N. Y.; Harry S. Myers, 276 Fifth Avenue, New York, N. Y.; January, 1922.

- Mississippi Valley Historical Association: William E. Connelley, Topeka, Kans.; Mrs. C. S. Paine, Lincoln, Nebr.; Iowa City, Iowa, May, 1922.
- Missouri Valley Commercial Teachers' Association: E. E. Gard, St. Joseph Business University, St. Joseph, Mo.; Mary Hansen, Central High School, Kansas City, Mo.; Kansas City, Mo., November 25-26, 1921.
- Music Supervisors' National Conference: Frank A. Beach, Music Hall, Emporia, Kans.; Ada Bickling, Evansville, Ind.; Nashville, Tenn., March 20-25, 1922.
- Music Teachers' National Association: Osbourne McConathy, Northwestern University, Evanston, Ill.; Robert G. McCutchan, De Pauw University, Greencastle, Ind.; Detroit, Mich., December 28-30, 1921.
- National Academy of Visual Instruction: F. W. Reynolds, University of Utah, Salt Lake City, Utah; J. V. Ankeney, University of Missouri, Columbia, Mo.
- National Associated Schools of Scientific Business: W. N. Ferris, Big Rapids, Mich.; B. S. Travis, Big Rapids, Mich.
- National Association for the Study and Education of Exceptional Children: Samuel D. Levy, Children's Court, New York, N. Y.; W. F. Blake-Burke, 543 West Seventh Street, Plainfield, N. J.
- National Association of Accredited Commercial Schools: B. F. Williams, Des Moines, Iowa; H. E. V. Porter, Jamestown, N. Y.; St. Louis, Mo., December 27-31, 1921.
- National Association of Corporation Training: W. W. Kincaid, Irving Place at Fifteenth Street, New York, N. Y.
- National Association of Dental Faculties: William Carr, 302 East Thirty-fifth Street, New York, N. Y.; De Los L. Hill, 612 Grant Boulevard, Atlanta, Ga.; Milwaukee, Wis., August 12-14, 1921.
- National Association of Directors of Educational Research: H. O. Bugg, Lincoln School, Columbia University, New York, N. Y.; Ernest J. Ashbaugh, Iowa State University, Iowa City, Iowa; with the Department of Superintendence, National Education Association.
- National Association of Directors of Supervised Student Teaching: A. R. Mead, Ohio Wesleyan University, Delaware, Ohio; Robert A. Cummins, University of Southern California, Los Angeles, Calif.; with the National Education Association.
- National Association of High School Supervisors and Inspectors: H. A. Hollister, University of Illinois, Urbana, Ill.; J. B. Edmondson, University of Michigan, Ann Arbor, Mich.; Chicago, Ill., with the Department of Superintendence, National Education Association.
- National Association of Penmanship Supervisors: C. A. Barnett, Cleveland, Ohio.
- National Association of Public School Business Officials: Arthur Kinkade, High School Building, Decatur, Ill.; R. H. Thomas, Portland, Oreg.; May, 1922.
- National Association of School Building Officials: C. W. Handman, 511 West Court Street, Cincinnati, Ohio; R. M. Milligan, Board of Education, St. Louis, Mo.
- National Association of Secondary School Principals: Merle Prunty, Central High School, Tulsa, Okla.; H. V. Church, J. Sterling Morton High School, Cicero, Ill.; with the Department of Superintendence, National Education Association.
- National Association of State Supervisors and Inspectors of Rural Schools: J. Virgil Chapman, Frankfort, Ky.; Annie Reynolds, Madison, Wis.; with the Department of Superintendence, National Education Association.
- National Association of State Universities in the United States of America: Edmond A. Birge, University of Wisconsin, Madison, Wis.; Frank L. McVey, University of Kentucky, Lexington, Ky.; New Orleans, La., November 7-8, 1921.
- National Association of Teacher's Agencies: W. H. Jones, Columbia, S. C.; C. Wilbur Cary, Hartford, Conn.; with the Department of Superintendence, National Education Association.
- National Association of Teachers in Colored Schools: H. L. McCrory, Biddle University, Charlotte, N. C.; R. S. Grassley, 446 West Pearl Street, Jackson, Miss.; Hampton Institute, July 26-29, 1922.
- National Association of Teachers of Speech: A. M. Drummond, Cornell University, Ithaca, N. Y.; Maria Stedman, West Virginia University, Morgantown, W. Va.
- National Association of Visiting Teachers: Jane Culbert, 8 West Fortieth Street, New York, N. Y.; Emma G. Case, 407 Municipal Building, Rochester, N. Y.
- National Child Labor Committee: David F. Houston, 195 Broadway, New York, N. Y.; Owen R. Lovejoy, 105 East Twenty-second Street, New York, N. Y.; Providence, R. I., June, 1922.
- National Collegiate Athletic Association: Palmer E. Pierce, 26 Broadway, New York, N. Y.; Frank W. Nicolson, Wesleyan University, Middletown, Conn.; New York, N. Y., December, 1921.
- National Commercial Teachers' Federation: Robert A. Grant, Odeon Building, St. Louis, Mo.; John Alfred White, 818 Monroe Street, Gary, Ind.; St. Louis, Mo., December 27-30, 1921.
- National Committee for Chamber of Commerce Cooperation with the Public Schools: G. D. Strayer, Columbia University, New York, N. Y.; F. A. Richardson, American City Bureau, Tribune Building, New York, N. Y.
- National Committee for the Teaching of Citizenship: Thomas M. Balliet, Washington, D. C.; Harry H. Moore, 3421 Lowell Street NW., Washington, D. C.
- National Committee on Mathematical Requirements: J. W. Young, Dartmouth College, Hanover, N. H.; J. A. Foberg, Harrisburg, Pa.; Boston, Mass., September 3, 1921.
- National Community Center Association: Mrs. Louis D. Brandeis, Stoneleigh Court, Washington, D. C.; Eugene C. Glibney, Board of Education, New York, N. Y.
- National Conference Committee on Standards of Colleges and Secondary Schools: George D. Olds, Amherst College, Amherst, Mass.; Frank W. Nicolson, Wesleyan University, Middletown, Conn.; New York, N. Y., February, 1922.
- National Conference of Deans of Women: Mina Kerr, Wheaton College, Wheaton, Mass.; Katharine S. Alvord, De Pauw University, Greencastle, Ind.; New Orleans, La., February or March, 1922.
- National Conference of Music Supervisors: Frank R. Beach, Emporia, Kans.; Ada Bickling, Evansville, Ind.
- National Conference on Educational Method: W. L. Wright, Huntington, West Va.; J. F. Hsieh, Teachers' College, Columbia University, New York, N. Y.; Chicago, Ill., March 1, 1922.
- National Conference on the Education of Truant, Backward, Dependent, and Delinquent Children: Charles H. Johnson, Albany, N. Y.; Hobart H. Todd, Industry, N. Y.; Detroit, Mich., September, 1922.
- National Council of Administrative Women in Education: Elizabeth Hall, 305 City Hall, Minneapolis, Minn.; Elmlra D. Cabell, Chicago Normal College, Chicago, Ill.; New Orleans, La., end of February 1922.
- National Council of Geography Teachers: Dr. W. W. Atwood, Clark University, Worcester, Mass.; George J. Miller, State Teachers' College, Mankato, Minn.; Washington, D. C., December 28, 1921.
- National Council of Normal School Presidents and Principals: L. C. Lord, Charleston, Ill.; C. H. Cooper, Mankato, Minn.; with Department of Superintendence, National Education Association.
- National Council of Primary Education: Ella Victoria Dobbs, 1211 University Avenue, Columbia, Mo.; Marion S. Hanchel, 1201 Stuart Avenue, Columbia, Mo.; Richmond, Va., with Department of Superintendence, National Education Association.
- National Council of Teachers in Day Schools for the Deaf: Frances Wittstein, 224 Thirty-fourth Street, Milwaukee, Wis.; Clara Newley, Parker Practice School, Chicago, Ill.

- National Council of Teachers of English:** Harry G. Paul, University of Illinois, Urbana, Ill.; W. Wilbur Hatfield, 506 West Sixty-ninth Street, Chicago, Ill.; Chicago, Ill., November 24-28, 1921.
- National Education Association:** Charl O. Williams, Memphis, Tenn.; J. W. Crabtree, 1201 Sixteenth Street, Washington, D. C.; Boston, Mass., week of July 4, 1922.
- National Education Association, Department of Superintendence:** R. G. Jones, Cleveland, Ohio; Chicago, Ill., February 27-March 8, 1922.
- National Education Association, National Council of Education:** Homer H. Searley, State Teachers' College, Cedar Falls, Iowa; Adelaide S. Baylor, 200 New Jersey Avenue NW., Washington, D. C.; Chicago, Ill., latter part of February, 1922.
- National Educators' Conservation Society:** Charles L. Bristol, New York University, New York, N. Y.; Nomer Gray, High School of Commerce, 120 West Forty-sixth Street, New York, N. Y.
- National Federation of College Women:** Mrs. J. C. Merriman, Hotel Commodore, New York, N. Y.; Mrs. Flora Warren Seymour, 4917 Blackstone Avenue, Chicago, Ill.; New York, N. Y., probably November, 1921.
- National Federation of Modern Language Teachers:** W. B. Snow, English High School, Boston, Mass.; C. H. Handschein, Oxford, Ohio; with the National Education Association, 1922.
- National Federation of State Education Associations:** Charles S. Foos, Reading, Pa.; John P. Everett, Kalamazoo, Mich.
- National Kindergarten Association:** Major Bradley Martin, 8 West Fortieth Street, New York, N. Y.; Bessie Locke, 8 West Fortieth Street, New York, N. Y.
- National League of Compulsory Education Officials:** Henry J. Gideon, 1522 Cherry Street, Philadelphia, Pa.; Arthur F. Lederle, Old Library Building, Detroit, Mich.; Detroit, Mich., November 9-12, 1921.
- National League of Nursing Education:** Anna C. Jammé, 417 Leachman Building, San Francisco, Calif.; Martha M. Russell, University Hospital, Boulder, Colo.; Seattle, Wash., about June 20, 1921.
- National League of Teacher-Mothers:** Ella Frances Lynch, Bryn Mawr, Pa.; Caroline Katzenstein, 4322 Chestnut Street, Philadelphia, Pa.
- National League of Teachers' Associations:** Nina O. Buchanan, Hotel Rainier Grand, Seattle, Wash.; Mabel Wilson, John Hay School, Seattle, Wash.; Boston, Mass., with the National Education Association.
- National Motion Picture League:** Mrs. Adele F. Woodward, Hotel Belleclaire, New York, N. Y.; Mrs. Clara F. Landin, Hotel Belleclaire, New York, N. Y.
- National Research Council, Division of Educational Relations:** John C. Merriam, Carnegie Institution, Washington, D. C.; Vernon Kellogg, 1701 Massachusetts Avenue, Washington, D. C.; Washington, D. C.
- National Round Table for Speech Improvement:** Frederick Martin, Martin Institution for Speech Correction, Ithaca, N. Y.; Paul V. Winslow, 616 Madison Avenue, New York, N. Y.; New York, N. Y., January 4, 1922.
- National Society for Broader Education:** Guy Carleton Lee, 55 West Forty-fourth Street, New York, N. Y.; W. E. Anderson, 168 West High Street, Carlisle, Pa.; New York, N. Y., second week of January, 1922.
- National Society for the Study and Correction of Speech Disorders:** Walter B. Swift, 110 Bay State Road, Boston, Mass.; A. B. Howe, 110 Bay State Road, Boston, Mass.; Chicago, Ill., February 27-March 3, 1922.
- National Society for the Study of Education:** F. J. Kelly, University of Kansas, Lawrence, Kans.; Guy M. Whipple, University of Michigan, Ann Arbor, Mich.; New Orleans, La., with the National Education Association.
- National Society for Vocational Education:** Lewis A. Wilson, New York State Department of Education, Albany, N. Y.; Clotilde Ware, 40 West Forty-second Street, New York, N. Y.; Kansas City, Mo., January 12-14, 1922.
- National Society of College Teachers of Education:** Harvey Ingalls, Harvard University, Cambridge, Mass.; Florence E. Bamberger, Johns Hopkins University, Baltimore, Md., with the Department of Superintendence, National Education Association.
- National Speech Arts Association:** Charles M. Holt, Minneapolis, Minn.; Jessie E. Tharp, New Orleans, La.
- National Story Tellers League:** Mary E. Hargreaves, 1602 Five South Wabash Avenue, Chicago, Ill.; Mrs. E. F. Leonard, 1349 Grace Street, Chicago, Ill.; September, 1924.
- National University Extension Association:** F. W. Reynolds, University of Utah, Salt Lake City, Utah; James A. Moyer, State House, Boston, Mass.; Lexington, Ky., April, 1922.
- National Vocational Guidance Association:** Mrs. Helen T. Wooley, 284 Medbury Avenue, Detroit, Mich.; Anne Davis, Board of Education, Chicago, Ill.; Chicago, Ill., February, 1922.
- New England Association of Chemistry Teachers:** Charles H. Stone, 38 Webster Street, Brookline, Mass.; S. Walter Hoyt, 20 Stone Road, Belmont, Mass.; Boston, Mass., December, 1921.
- New England Association of College Teachers of Education:** H. G. Townsend, Smith College, Northampton, Mass.; Douglass Waples, Tufts College, Mass.; Boston, Mass., Fall, 1921.
- New England Association of Colleges and Secondary Schools:** James A. Tufts, Phillips Exeter Academy, Exeter, N. H.; Walter Ballou Jacobs, Brown University, Providence, R. I.; Boston, Mass., December 2-3, 1921.
- New England Association of School Libraries:** Mary H. Davis, High School, Brookline, Mass.; Edith K. Coulman, High School, Quincy, Mass.; Fall, 1921.
- New England Association of School Superintendents:** S. C. Hutchinson, Montpelier, Vt.; E. W. Robinson, Fitchburg, Mass.; Boston, Mass., November 10-12, 1921.
- New England Association of Teachers of English:** Katherine H. Shute, 331 Walnut Avenue, Roxbury, Mass.; A. B. de Mille, Milton Academy, Milton, Mass.; Boston, Mass., December 10, 1921.
- New England College Entrance Certificate Board:** Arthur J. Roberts, Colby College, Waterville, Me.; Frank W. Nicolson, Wesleyan University, Middletown, Conn.; Boston, Mass., April, 1922.
- New England High School Commercial Teachers Association:** Arthur F. O'Malley, High School of Commerce, Boston, Mass.; William O. Holden, Pawtucket, R. I.
- New England History Teachers' Association:** Samuel Morison, Harvard University, Cambridge, Mass.; Horace Kidger, Newton Technical High School, Newtonville, Mass.
- New England Home Economics Association:** Antoinette Roof, Simmons College, Boston, Mass.; Mary Bosworth Stocking, Simmons College, Boston, Mass.; Boston, Mass., October 15, 1922.
- New England Modern Language Association:** Clarence W. Eastman, Amherst College, Amherst, Mass.; Elizabeth W. Gerrish, Roxbury High School, Boston 19, Mass.; Boston, Mass., May 13, 1922.
- New England Penmanship Association:** C. W. M. Blanchard, 61 Monument Street, West Medford, Mass.; Annie C. Woodward, 2 Madison Street, Somerville, Mass.; Boston, Mass., January 28, 1922.
- New England Vocational Guidance Association:** Frederick J. Allen, Vocational Guidance of Harvard University, Cambridge, Mass.; Laura F. Wentworth, 35 Williams Street, Brookline, Mass.; Cambridge, Mass., July 29, 1921.
- North Central Association of Colleges and Secondary Schools:** Lotus D. Coffman, University of Minnesota, Minneapolis, Minn.; Harry Morehouse Gage, Coe College, Cedar Rapids, Iowa; Chicago, Ill., March 16-18, 1922.

- North Central Council of State Normal School Presidents: F. A. Cotton, La Crosse, Wis.; J. G. Crabbe, Greeley, Colo.
- Northern Baptist Education Society: Austen K. de Blois, 437 Shawmut Avenue, Boston, Mass.; Robert L. Webb, 1066 Commonwealth Avenue, Boston, Mass.; Worcester, Mass., October 24, 1922.
- Northwest Association of Secondary and Higher Schools: Hopkins Jenkins, Jefferson High School, Portland, Oreg.; Philip Soulen, University of Idaho, Moscow, Ida.; Spokane, Wash., March 29-31, 1922.
- Northwestern Association of History, Government and Economics Teachers: T. O. Ramsey, North Central High School, Spokane, Wash.
- Playground and Recreation Association of America: Joseph Lee, 1 Madison Avenue, New York, N. Y.; Howard S. Braucher, 1 Madison Avenue, New York, N. Y.
- Presbyterian Educational Association of the South: Henry H. Sweets, 410 Urban Building, Louisville, Ky.; D. S. Gage, 410 Urban Building, Louisville, Ky.; Montreat, N. C., July, 1922.
- Progressive Education Association: Arthur E. Morgan, Ludlow Building, Dayton, Ohio; Mrs. Gertrude Stevens Ayres, 1719 Thirty-fifth Street, Washington, D. C., Spring, 1922.
- Religious Education Association: Theodore G. Soares, University of Chicago, Chicago, Ill.; Henry F. Cope, 1440 East Fifty-seventh Street, Chicago, Ill., Spring, 1922.
- School Board Member's Association: Secretary, Henry S. Chapin, 23 Flatbush Avenue, Brooklyn, N. Y.
- Self-Government, Incorporated: Richard Welling, 90 Broadway, New York, N. Y.; Wilmet V. Trevo, 47 Pierpont Street, Brooklyn, N. Y.
- Société Nationale des Professeurs Français: Auguste George, 100 St. Nicholas Avenue, New York, N. Y.; Jean B. Zacharie, 9 Mitchell Place, New York, N. Y.; New York, N. Y., September 17, 1921.
- Society for the Promotion of Engineering Education: C. F. Scott, Yale University, New Haven, Conn.; F. L. Bishop, University of Pittsburgh, Pittsburgh, Pa.; Urbana, Ill., June, 1922.
- Society for Visual Education: Rollin D. Salisbury, University of Chicago, Chicago, Ill.; Forest Ray Moulton, 327 South La Salle Street, Chicago, Ill.; Chicago, Ill., February 13, 1922.
- Society of Directors of Physical Education in Colleges: F. W. Luehring, University of Nebraska, Lincoln, Neb.; T. N. Metcalf, Oberlin College, Oberlin, Ohio; New York, N. Y., December, 1921.
- Society of Progressive Oral Advocates: Max A. Goldstein, 3858 Westminster, St. Louis, Mo.; Edna Davis, 818 South Kingshighway, St. Louis, Mo.; St. Louis, Mo., June, 1922.
- Southern Baptist Education Association: W. L. Poteat, Wake Forest, N. C.; Albert R. Bond, Jefferson County Bank, Birmingham, Ala.; Birmingham, Ala., December 1, 1921.
- Southern Commission of Accredited Schools: A. B. Hill, State Capitol, Little Rock, Ark.; Harry Clark, Baptist Convention Building, Nashville, Tenn.; Birmingham, Ala., November 30, 1921.
- Southern Commission on Higher Institutions: Bert E. Young, Vanderbilt University, Nashville, Tenn.; H. D. Campbell, Washington and Lee University, Lexington, Va.; Birmingham, Ala., November 29, 1921.
- Southern Education Society: J. P. McConnell, East Radford, Va.; A. P. Bourland, 1707 Kilbourne Place, Washington, D. C.; Asheville, N. C., August 2-4, 1922.
- Southern Home Economics Association: Edith M. Thomas, Department Vocational Education, West Raleigh, N. C.; Christine South, Winthrop College, Rock Hill, S. C.
- Southern Industrial Education Association: C. C. Calhoun, Evans Building, Washington, D. C.; Mrs. Augusta S. Stone, 1228 Connecticut Avenue, Washington, D. C.; Washington, D. C., October 31, 1921.
- Southern Woman's Educational Alliance: Oria Latham Hatcher, Hotel Richmond, Richmond, Va.; Rachel E. Gregg, Hotel Richmond, Richmond, Va.; Richmond, Va., October 20, 1921.
- United States Bureau of Education Committee on Highway and Highway Transport Education: C. J. Tilden, Willard Building, Washington, D. C.; Walton C. John, Bureau of Education, Washington, D. C.
- University Commission on Southern Race Questions: Josiah Morse, University of South Carolina, Columbia, S. C.; W. M. Hunley, Lexington, Va.
- Vocational Education Association of the Middle West: J. A. James, University of Wisconsin, Madison, Wis.; L. W. Wahlstrom, 1711 Estes Avenue, Chicago, Ill.; Milwaukee, Wis., January 11-14, 1922.
- Western Arts Association: Carl T. Cotter, Board of Education, Toledo, Ohio; L. R. Abbott, Board of Education, Grand Rapids, Mich.; Cincinnati, Ohio, May 2-5, 1922.
- Women's Educational and Industrial Union: Marion Churchill, 22 Kensington Road, Arlington, Mass.; Elizabeth W. Schermerhorn, 84 Prescott Street, Cambridge, Mass.; Boston, Mass., November 8, 1921.
- Women's Intercollegiate Association for Student Government: Josephine Liedemuth, 321 Brookline Avenue, Boston, Mass.; Miriam Brailey, Mt. Holyoke College, South Hadley, Mass.; Boston, Mass., November, 1921.
- Y. M. C. A. Educational Secretaries Association: B. D. Edwards, Y. M. C. A., Detroit, Mich.; L. G. Nichols, Y. M. C. A., Portland, Oreg.; June, 1923.

## 2. State.

- Alabama:**  
 Alabama Educational Association: T. W. Palmer, Montevallo; H. G. Dowling, Cullman.  
 Alabama History Teachers' Association: Mrs. Thomas M. Owen, Montgomery.  
 Alabama Home Economics Association: Mrs. Thornton Home, Montgomery; Madge Johnson, Montevallo; Birmingham, April, 1922.  
 Alabama Sunday School Association: James L. Thomas, University; S. H. Blain, Troy; Gadsden, probably April 26, 1922.  
 Association of Alabama Colleges: M. W. Swartz, Woman's College, Montgomery; James G. Doster, University; April, 1922.  
 Association of English Teachers of Alabama: Mrs. F. D. Thame, 521 Thirteenth Avenue, Tuscaloosa; Ruth L. Long, Selma.
- Arizona:**  
 Arizona State Teachers' Association: A. O. Neal, University of Arizona, Tucson; A. L. Jones, Phoenix; October or November, 1922.
- Arkansas:**  
 Arkansas State Teachers' Association: D. T. Henderson, Lake Village; Irene Jones, Leslie; Little Rock, November 10-12, 1921.
- California:**  
 California Council of Education: E. Morris Cox, City Hall, Oakland; Arthur H. Chamberlain, Flood Building, San Francisco.  
 California Federation of School Women's Clubs: Florence Stahl, 187 South Eleventh Street, San Jose; Alice M. William, 327 Forty-first Street, Oakland.  
 California High School Teachers' Association: Horace M. Rebek, Santa Monica; Arthur H. Chamberlain, Flood Building, San Francisco.  
 California Music Teachers' Association: Mrs. Edward Pease, I. O. O. F. Building, Sacramento; Mary E. Ireland, 2414 T Street, Sacramento; Oakland, July, 1922.  
 California State Association of Teachers of English: Effie B. McFadden, State Normal School, San Francisco; Benjamin Weed, Ross; December, 1921.

**California—Continued.**

- California Teachers' Association, Bay Section: Elizabeth Arlett, 24 Linda Avenue, Oakland; Frank H. Boren, University High School, Oakland; October, 1922.  
 California Teachers' Association, Central Coast Section: C. W. Edwards, Fresno; James A. McGuffin, 705 Yale Avenue, Fresno.  
 California Teachers' Association, Northern Section: L. F. Farris, Marysville; Mrs. Minnie R. O'Neill, City Hall, Sacramento, October, 1922.  
 California Teachers' Association, Southern Section: Merton F. Hill, Upland; F. L. Thurston, Pasadena; Los Angeles, December 21-23, 1921.  
 Central California Teachers' Association: Clarence W. Edwards, Fresno; James A. McDuffin, 705 Yale Avenue, Fresno; Fresno, December, 1921.

**Colorado.**

- Colorado Education Association: R. J. Walters, Rocky Ford; H. B. Smith, 532 Commonwealth Building, Denver; Grand Junction, November 7-10, Pueblo, November 9-11, Denver, November 9-11, 1922.

**Connecticut:**

- Connecticut Arts Association: Maud A. Simpson, 101 Wilcox Avenue, Meriden; Rosemary Brady, 774 East Main Street, Meriden; Bridgeport, February 2-4, 1922.  
 Connecticut Home Economics Association: Dorothy Buckley, Storrs; Annie I. Robertson, 219 Church Street, Hartford; Hartford, October, 1921.  
 Connecticut State Teachers' Association: Levi T. Garrison, Willimantic; Samuel P. Willard, Colchester; Bridgeport, February 3-4, 1922.  
 Connecticut Superintendents' Association of Public Schools: Elmer H. Havens, Bridgeport; Howard S. Challenger, 985 Noble Avenue, Bridgeport; Bridgeport, October 10, 1921.  
 Connecticut Trade Educators' Association: F. J. Trinder, Capitol, Hartford; Everett D. Packard, Box 392, Stamford.

**District of Columbia:**

- Administrative Women in Education of the District of Columbia: Vice president, Adelaide Davis, Seward Apartment, Washington; Mary A. Dilger, 1211 Euclid Street NW., Washington.  
 Federal Schoolmen's Club: Paul Bartsch, 1456 Belmont Street NW., Washington; Alvin W. Miller, 1323 Randolph Street, Washington; Washington, November 5, 1921.  
 High School Teachers' Association of the District of Columbia: Harry English, Franklin School, Washington; Mrs. M. D. Merrill, Central High School, Washington; Washington, October, 1921.  
 Principals' Association of the Graded White Schools: Metella King, 1001 Eighth Street NW., Washington; Mary A. Dilger, 1211 Euclid Street NW., Washington.  
 School Club: Gordon D. Houston, 1758 T Street NW., Washington; Edwin B. Henderson, Falls Church, Va.; Washington, October 8, 1921.

**Florida:**

- Florida Educational Association: W. S. Cawthorn, Gainesville; R. L. Turner, Innerness; Orlando, December 27-29, 1921.

**Georgia:**

- Georgia County School Officials' Association: M. L. Brittain, Atlanta; M. L. Duggan, Atlanta.  
 Georgia Educational Association: Kyle T. Alfriend, Milledgeville; A. P. Cleveland, Valdosta.  
 Georgia State High School Teachers' Association: Joseph Stewart, Athens; J. H. Purks, Madison; Athens.  
 Georgia State Teachers' Association: W. D. Thomas, Southern University, Baton Rouge; Silas X. Floyd, 1025 Twelfth Street, Augusta; Columbus, May 8-10, 1922.

**Idaho:**

- Idaho State Teachers' Association: Secretary, Alice Beach, Montpelier; probably Boise, Thanksgiving vacation, 1921.

**Illinois:**

- Federation of Illinois Colleges: Joseph R. Harker, Illinois Women's College, Jacksonville; E. E. Rall, Northwestern College, Naperville; Evanston, February 20-21, 1922.  
 High School Conference, University of Illinois: H. A. Hollister, 254 Administration Building, Urbana; Urbana, November 23-25, 1922.  
 Illinois Association of Teachers of English: Clara Hawkes, Cicero; E. C. Baldwin, Urbana; Urbana, November 19, 1922.  
 Illinois City Superintendents' Association: J. M. Allen, Springfield; H. B. Fisher, Streator; Springfield, October 27-28, 1921.  
 Illinois State Association of Elementary School Supervisors: F. W. Rawcliffe, Cicero; Mabel W. Shaw, 208 Buell Avenue, Joliet; Macomb, May 12-13, 1922.  
 Illinois State School Board Association: E. H. Abbott, Elgin; Mrs. G. A. Stover, 648 South Taylor Avenue, Oak Park; Springfield, October 27-28, 1922.  
 Illinois State Teachers' Association: K. D. Waldo, Aurora; Robert C. Moore, Carlinville; Springfield, December 28-30, 1921.  
 Schoolmasters' Club of Illinois: H. V. Church, Cicero; Anthony Middleton, 221 Arthur Avenue, Peoria; Bloomington, February 3-4, 1922.

**Indiana:**

- Indiana Association of Psychology and Education: Oscar H. Williams, Indianapolis; Frances M. Kelsey, Teachers College, Indianapolis; Indianapolis, October, 1921.  
 Indiana Association of Teachers of English: Mabel Goddard, Technical High School, Indianapolis; Bess Sanders, High School, Greencastle; Indianapolis, October 19-21, 1922.  
 Indiana City and Town Superintendents' Association: T. F. Fitzgibbon, Muncie; W. C. Boble, Swazee; Indianapolis, February 2-4, 1922.  
 Indiana History Teachers' Association: Elmer Andrews, Purdue University, Lafayette; Edgar Forsythe, Indianapolis; Indianapolis, March 31 and April 1, 1922.  
 Indiana Home Economics Association: Mrs. Morton Fordice, Russellville; Florence M. Boston, Purdue University, Lafayette; Lafayette, January 12, 1922.  
 Indiana Music Teachers' Association: P. Marinus Paulsen, Marion; Effie M. Harvey, Indianapolis.  
 Indiana State Kindergarten Association: Ruth Patterson, 717 North Alabama Street, Indianapolis; Mary J. Africa, 2130 North New Jersey Street, Indianapolis; Indianapolis, October 20-22, 1921.  
 Indiana State Teachers' Association: H. L. Smith, Bloomington; Charles O. Williams, Richmond; Indianapolis, October 19-21, 1922.  
 Indiana University Conference on Educational Measurement: H. L. Smith, School of Education; Indiana University, Bloomington.

**Iowa:**

- Iowa Association of Mathematics Teachers: W. E. Beck, Iowa City; Marion M. Roberts, 219 Ash Avenue, Ames.  
 Iowa Association of Science Teachers: Walter H. Nead, 2124 West Broadway, Council Bluffs; Frances Church, East High School, Des Moines; Des Moines, November 3, 1921.

## Iowa—Continued.

Iowa Association of Teachers of English: Hardin Craig, University of Iowa, Iowa City; H. Y. Moffett, University of Iowa, Iowa City; Des Moines, November, 1922.

Iowa Home Economics Association: Mrs. Helen Wagner, Des Moines; Lillie Knappenberger, Iowa State College, Ames; Des Moines, fall, 1921.

Iowa Society of Social Science Teachers: Elizabeth Bennett, Cedar Rapids; Ethel L. Goodwin, 1012 Des Moines Street, Des Moines; Des Moines, November 3-4, 1922.

Iowa State Federation of Teachers' Clubs: Mrs. M. A. Barr, Muscatine; Mary A. Lord, East Junior High School, Sioux City; Des Moines, November, 1922.

Iowa State Teachers' Association: L. H. Minkel, Fort Dodge; Charles F. Pye, 407 Youngerman Building, Des Moines; Des Moines, November 3-5, 1921.

## Kansas:

Kansas Association of Mathematics Teachers: Minnie Dingee, High School, Hutchinson; Edna E. Austin, Number Six, The Devon, Topeka; Topeka, January, 1922.

Kansas Association of Teachers of English: Mrs. Charles A. Mahin, Cheney's; Nellie Ansel, Topeka.

Kansas History Teachers' Association: Secretary, Rita Dietman, Manhattan; Topeka, October, 1921.

Kansas Modern Language Association: John V. Cortelyou, Kansas State Agricultural College, Manhattan; Helen J. McKinney, High School, Atchinson.

Kansas State Teachers' Association: J. W. Miley, Girard; F. L. Pinet, Topeka; Topeka, Hays, Hutchinson, and Parsons, October 19-21, 1922.

## Kentucky:

Association of Kentucky Colleges and Universities: W. J. Hutchins, Berea College, Berea; Frank L. Rainey, Centre College, Danville, Lexington, December 3, 1921.

Kentucky Educational Association: Mrs. M. H. Hall, Shelbyville; R. E. Williams, 4518 Southern Parkway, Louisville; Louisville, April 12-14, 1922.

Kentucky Music Teachers' Association: Caroline Bourgard, 1151 East Broadway, Louisville; Flora Marguerite Bertelle, 734 Fourth Avenue, Louisville; Louisville, April or May, 1922.

## Louisiana:

Louisiana Council of Education: A. B. Dinwiddie, Tulane University, New Orleans; G. C. Huckaby, Baton Rouge.

Louisiana Professional Teachers' League: J. M. Smith, Lafayette; P. H. Griffith, Baton Rouge.

Louisiana State Association of English Teachers: A. G. Reed, Louisiana State University, Baton Rouge; Ammie T. Bell, Baton Rouge; Lake Charles, April, 1922.

Louisiana Teachers' Association: P. H. Griffith, Baton Rouge; L. J. Alleman, Matchitoches; Lake Charles, first part of April, 1922.

## Maine:

Maine Teachers' Association: G. Herbert Foss, Fort Fairfield; Adelbert W. Gordon, Augusta; Portland, October 27-28, 1921.

## Maryland:

Maryland Council of Teachers of English: Glenn R. Owens, Baltimore City College, Baltimore; Ada Zouck, Reisterstown, November 25, 1922.

Maryland History Teachers' Association: Lena C. Van Bibber, 129 East North Avenue, Baltimore; Laura J. Cavines, Western High School, Baltimore; Baltimore, February, 1922.

Maryland State Teachers' Association: Norman W. Cameron, Teachers' Training School, Baltimore; Hugh W. Caldwell, Elkton, Baltimore, Thanksgiving week 1922.

## Massachusetts:

Conference on Rural Education: William B. Aspinwall, State Normal School, Worcester; Honora G. Brown, State Normal School, Worcester; Worcester, March 17, 1922.

Harvard Teachers' Association: William L. W. Field, Milton Academy, Milton; Edwin A. Shaw, Harvard University, Cambridge; Cambridge, April 29, 1922.

High School Masters Club of Massachusetts: Charles F. Warner, High School, Springfield; John W. Hutchins, High School, Malden; Boston, March 25, 1922.

Massachusetts Public School Janitors Association: John F. Carr, 38 Glenwood Avenue, Cambridge; Terrence F. Casey, 163 Howard Street, Lowell; Lowell, second week in July, 1922.

Massachusetts Schoolmasters' Club: Charles S. Clark, Somerville; Leonard M. Patton, Milton; Boston, October, 1921.

Massachusetts State Normal School Teachers' Association: Roy L. Smith, State Normal School, North Adams; M. Harriet Bishop, 1 Normal Street, Worcester; Bridgewater, September, 8, 1922.

Massachusetts State Superintendents' Association: Fayette K. Congdon, Northampton; S. Howard Chace, Beverly; Boston, December 1, 1922.

Massachusetts Teachers' Federation: Mary McSkimmon, 20 Clinton Road, Brookline, Ernest Wakechile, 238 Elm Street, Somerville 44; Cambridge, October 21, 1922.

Tufts College Teachers' Association: Adelbert H. Morrison, Mechanical Arts High School, Boston; J. Louis Keegan, Tufts College; Tufts College, April, 1922.

## Michigan:

Conference on Educational Measurements: Burton Barnes, 1354 Broadway, Detroit; George Birkam, 4425 Hurlbut Avenue, Detroit; Detroit, May, 1921.

Michigan Association of School Superintendents and School Board Members: R. W. Cooper, Lansing; H. C. Daley, Highland Park, Ann Arbor, March 27-28, 1922.

Michigan Schoolmasters' Club: J. P. Edmonson, Ann Arbor; Louis Parker Jocelyn, 545 South Division Street, Ann Arbor; Ann Arbor, March 30, 1922.

Michigan State Federation of Teachers' Clubs: Cora Riggs, Grand Rapids; Lucy Betts, Grand Rapids, Michigan State Home Economics Association: Mary E. Sweeney, Michigan Agricultural College, East Lansing; Lenna F. Cooper, Battle Creek Sanitarium School of Home Economics, Battle Creek; Corvallis, Ore., July 8, 1922.

Upper Peninsula Educational Association: C. L. Phelps, Ishpeming; W. F. Lewis, Marquette; Sault Ste. Marie, October 11-13, 1922.

## Minnesota:

Minnesota Educational Association: Theda Gildemeister, State Teachers College, Winona; C. G. Schult, 1661 Portland Avenue, St. Paul; Minneapolis, November 2-5, 1921.

Minnesota Educational Association of School Board Members: Victor E. Anderson, Wheaton; L. P. Wood, Delevan; St. Paul, November 3-5, 1921.

Minnesota Music Teachers' Association: Stanley J. Avery, 435 Ridgewood Avenue, Minneapolis; Harriet Allen, 1855 Ashland Avenue, St. Paul; St. Paul, June, 1922.

Minnesota State Normal School Teachers: Robert R. Reed, State Teachers College, Winona; Grace B. Thacker, State Teachers College, Bemidji; Minneapolis, sometime between November 2 and 5, 1921.

**Mississippi:**

Mississippi Chemical Association: O. A. Shaw, University.  
Mississippi Teachers' Association: H. L. McCleskey, Station A, Hattiesburg; F. M. Coleman, Junior, Jackson; Jackson, May 3-6, 1922.

**Missouri:**

Missouri College Union: J. L. Roemer, St. Charles; F. Bevy Smith, Central College, Fayette; Cameron, November, 1922.  
Missouri Society of Teachers of English: Lucy J. Ball, State Teachers College, Warrensburg, Early G. Tyler, Lafayette High School, St. Joseph; St. Louis, November 2-5, 1921.  
Missouri Society of Teachers of History and Government: W. A. Lewis, Junior College, Kansas City; J. E. Wrench, Columbia; St. Louis, November 11-13, 1921.  
Missouri Society of Teachers of Mathematics and Science: J. K. Laughlin, Kansas City; Alfred Davis, Soldan High School, St. Louis.  
Missouri State Negro Teachers' Association: Clement Richardson, Lincoln University, Jefferson City; H. O. Cook, 2436 Montgall, Kansas City; Kansas City, November, 1922.  
Missouri State Teachers' Association: Sam A. Baker, Jefferson City; E. M. Carter, Columbia; St. Louis, November 15-18, 1922.

**Montana:**

Montana State Council of English Teachers: Ida Davis, Bozeman; Margaret Roman, Missoula; Missoula, May, 1922.  
Montana State Teachers' Association: J. M. Hamilton, Bozeman; Oscar Boland, Lewistown.

**Nebraska:**

Nebraska History Teachers' Association: Mrs. Mattie A. Branthwaite, 341 North Eleventh Street, Lincoln; Margaret Davis, 1712 East Street, Lincoln; Lincoln, May 1922.  
Nebraska Home Economics Association: Mrs. Lulu Körtz Hudson, Simeon; Mary Ellen Brown, 3321 R Street, Lincoln.  
Nebraska Music Teachers' Association: August Molzer, Oliver Building, Lincoln; Paul Reuter, Seward.  
Nebraska Schoolmasters' Club: A. H. Stoley, Hastings; H. E. Bradford, Lincoln.  
Nebraska State Teachers' Association: W. H. Morton, Fairbury; H. O. Sutton, Teachers College, Kearney; Omaha, November 9-11, 1921.  
Nebraska Women's Educational Club: E. Ruth Pyreth, McKinley School, Lincoln; Mary Crawford, Kearney; Omaha, first week in November, 1921.

**Nevada:**

Nevada State Educational Association: E. L. McKeown, Carson City; E. O. Vaughan, Reno; probably Reno, December, 1921.

**New Hampshire:**

New Hampshire Practical Arts Club: John F. Cook, 34 Union Street, Lebanon; Herbert C. Wilcox, 229 North Main Street, Concord; Concord, February, 1922.  
New Hampshire State Teachers' Association: Francis J. Clayton, Parker School, Concord; Caroline E. Head, 97 Liberty Street, Manchester; October, 1922.

**New Jersey:**

Association of Teachers of English of New Jersey: Charles H. Whitman, Rutgers College, New Brunswick; Mabel A. Tuttle, High School, Linden; Newark, March 25, 1922.  
Council of Education of the State of New Jersey: Ira T. Chapman, New Brunswick; J. Howard Hulsart, March 10-11, 1922.  
New Jersey Physical Education Association: Gustav H. Bojus, Public Schools, Jersey City; F. W. Maroney, Department of Public Instruction, Trenton.  
New Jersey Science Teachers' Association: Melville T. Cook, Rutgers College, New Brunswick; R. A. Whitmoyer, High School, Atlantic City; New Brunswick, October, 1921.  
New Jersey State Teachers' Association: John J. Unger, Bridgeton; Henry J. Neal, Collingswood; Atlantic City, December 27-29, 1921.  
Vocational Arts Association of New Jersey: Griselda Ellis, Girls' Vocational School, Newark; James E. Gaffney, 201 Victoria Avenue, Atlantic City; May 14-15, 1922.

**New Mexico:**

New Mexico Association for Science: J. S. Chapman, Santa Fe; A. O. Weese, Albuquerque; November, 1921.  
New Mexico Educational Association: Josie Lockard, Raton; John Milne, Albuquerque; Albuquerque, November 22-24, 1922.

**New York:**

Associated Academic Principals: Sherman L. Howe, Carthage; H. Claude Hardy, Fairport; Syracuse, December 29-31, 1921.  
Association of Agricultural Teachers and Principals: L. R. Lockwood, Hannibal; I. N. Charlton, Cobleskill; Ithaca, August 3, 1921.  
Association of Colleges of the State of New York: Frederick C. Ferry, Hamilton College, Clinton; Augustus S. Downing, Education Building, Albany.  
New York State Association of District Superintendents: John C. Mallock, Churchville; Mrs. Mildred Pratt, Lacona; Rochester, January 11-13, 1922.  
New York State Association of English Teachers: James M. Spinning, West High School, Rochester; Walter P. McIntosh, White Plains; Syracuse, November 28-29, 1922.  
New York State Council of City School Superintendents: Ernest Hartwell, Buffalo; R. B. Kelley, Lockport; Albany, October, 1922.  
New York State Council of Elementary School Principals and Teachers: William B. Blaisdell, Temple Street, Fredonia; D. B. Mills, Binghamton; Buffalo, November 21-23, 1921.  
New York State History Teachers' Association: Arthur H. Ferguson, Central High School, Syracuse; Frances Madden, High School, Schenectady; Syracuse, November 27-29, 1922.  
New York State Home Economics Association: Grace Gillett, State College for Teachers, Albany; Edith A. Barver, 1 State Street, Schenectady; Syracuse, November, 1922.  
New York State Hygiene and Physical Education Association: Carl Burkhardt, Buffalo; M. Deem, Albany; Syracuse, November 27-29, 1922.  
New York State Modern Language Association: Charles H. Holzwarth, Rochester; Ferdinand F. Di Bartolo, Buffalo; Syracuse, November 28-29, 1922.  
New York State Science Teachers' Association: Ernest F. Conway, Syracuse; George Fowler, Syracuse; Syracuse, November 22-24, 1922.  
New York State Teachers' Association: John A. De Camp, Utica; Richard A. Searing, 617 North Goodman Street, Rochester; Syracuse, November 27-29, 1922.

**North Carolina:**

Association of Teachers of Secondary Mathematics: A. W. Hobbs, Chapel Hill; Fannie Start Mitchell, Wilmington; Greenville, about February 3, 1922.  
North Carolina Association of City Superintendents: E. J. Coletrane, Roanoke Rapids; Hoy Taylor, Franklinton; Raleigh, Spring, 1922.



## North Carolina—Continued.

North Carolina Association of Geography Teachers: John J. Blair, Wilmington; Collier Cobb, Chapel Hill; Chapel Hill, July 13, 1922.

North Carolina Educational Association: Mildred Harrington, Aberdeen; Mary L. Harris, Concord. North Carolina Sunday School Association: Gilbert T. Stephenson, Winston-Salem; D. W. Sims, 304 Masonic Temple, Raleigh; Charlotte, April 11-13, 1922.

North Carolina Teachers' Assembly: Charles E. Brewer, Raleigh; A. T. Allen, Raleigh; Raleigh November 23-25, 1921.

## North Dakota:

North Dakota Council of Geography Teachers: J. E. Switzer, State Normal School, Valley City; Huldah L. Winsted, State Normal School, Minot.

North Dakota Education Association: Nelson Sauvain, Devils Lake; R. L. Brown, Valley City.

## Ohio:

Conference of Ohio Presidents and Deans: Elias Compton, College of Wooster; Mrs. Clara T. Brumback, Denison University, Granville; Columbus, the Thursday before Easter, 1922.

Ohio Association of English Teachers: Edna S. Pratt, High School of Commerce, Columbus; C. E. Thomas, Woodward High School, Cincinnati; Columbus, Christmas Holidays, 1921.

Ohio College Association: E. A. Miller, Oberlin College, Oberlin; E. R. Mead, Ohio Wesleyan University, Delaware.

Ohio History Teachers' Association: Arthur Hirsch, Delaware; G. A. Washburne, Columbus; November, 1922.

Ohio Home Economics Association: Martha Hanna, Miami University, Oxford; Henrietta Gromme, Home Economics Department, Ohio State University, Columbus; Columbus, December 28, 1921.

Ohio Industrial Arts Teachers' Association: J. W. Davis, Warren; G. R. Frank, Columbus, December, 1921.

Ohio League of Teachers' Organizations: Amie G. Inman, 1978 East One hundred and sixteenth Street, Cleveland; F. W. Englehardt, 2204 Fulton Avenue, Cincinnati; Columbus, December 26-27, 1921.

Ohio Society of College Teachers of Education: Bruce W. Burch, Wittenberg College, Springfield; F. C. Landsittel, Ohio State University, Columbus; Columbus, March 31-April 1, 1922.

Ohio State Teachers' Association: W. H. Kirk, East Cleveland; F. E. Reynolds, West Park; Columbus, December 27-29, 1921.

## Oklahoma:

Oklahoma Council of Teachers of Education: Adelia Clifton, Central High School, Oklahoma City; Ada Hanna, High School, Shawnee.

Oklahoma Education Association: N. O. Hopkins, Okmulgee; M. A. Nash, 401 Capitol Building, Oklahoma City; Oklahoma City, February 6-11, 1922.

Oklahoma History Teachers' Association: M. L. Wardell, Pawhuska; C. W. Turner, 1623 Ellison City; Oklahoma City, February 8-10, 1922.

## Oregon:

Oregon Council of Teachers of English: Edna Sterling, Salem; Mrs. Margaret B. Goodall, 1790 Fairmount Boulevard, Eugene.

Oregon State Teachers' Association: Mrs. Mary L. Fulkerson, Court House, Salem; E. D. Ressler, Corvallis; Portland, December 29-31, 1921.

## Pennsylvania:

Association of School Board Secretaries of Pennsylvania: John G. Shearer, Ford City; Ferdinand Reisgen, Ford City.

Pennsylvania Association of Deans and Advisers of Women: Thyrsa Amos, University of Pittsburgh, Pittsburgh; Grace D. McCarthy, State Normal School, West Chester.

Pennsylvania State Education Association: William W. Evans, Bloomsburg; James Herbert Kelly, 10 South Market Square, Harrisburg; Altoona, December 27-30, 1921.

Pennsylvania State Modern Language Association: J. P. W. Crawford, University of Pennsylvania, Philadelphia; Ellis A. Schnabel, Northeast High School, Philadelphia; December 28, 1921.

Pennsylvania State School Directors' Association: Mrs. E. S. H. McCauley, Beaver; D. D. Hammelbaugh, Harrisburg; Harrisburg, February 9-10, 1922.

Public Education and Child Labor Association of Pennsylvania: Franklin N. Brewer, Wanamaker's Store, Philadelphia; B. M. Watson, 1720 Chestnut Street, Philadelphia.

Schoolmen's Week (University of Pennsylvania): Harlan Updegraff, University of Pennsylvania, Philadelphia; LeRoy A. King, University of Pennsylvania, Philadelphia; Philadelphia, probably April 13-15, 1922.

## Rhode Island:

Rhode Island History Teachers' Association: Stephen S. Colvin, Brown University, Providence; M. Davitt Carroll, 76 Beaufort Street, Providence.

Rhode Island Institute of Instruction: John F. Deering, Riverpoint; M. Davitt Carroll, 122 Pocasset Avenue, Providence.

## South Carolina:

Association of Colleges of South Carolina: Henry N. Snyder, Wofford College, Spartanburg; L. T. Baker, University of South Carolina, Columbia.

South Carolina Home Economics Association: Christine South, Winthrop College, Rock Hill; Sarah Gilman, Columbia.

South Carolina School Improvement Association: Mary Eva Hite, Batesburg; Mattie E. Thomas, State Department of Education, Columbia.

South Carolina State Colored Teachers' Association: J. L. Cain, Darlington; I. M. A. Myers, Columbia. South Carolina State Teachers' Association: E. C. McCants, Anderson; R. C. Burt, Rock Hill.

## South Dakota:

South Dakota Commercial Teachers' Association: Thomas W. Noel, Yankton; Ella Starr, Madison. South Dakota Education Association: Jane Emry, Madison; A. H. Seymour, Aberdeen; Pierre, November 27-29, 1922.

## Tennessee:

Physical Education Society of Tennessee: John R. Bender, Knoxville; Jeannette M. King, Murfreesboro; Nashville, about Easter, 1922.

Tennessee College Association: George J. Burnett, Tennessee College, Murfreesboro; Thomas Alexander, Peabody College, Nashville; Nashville, March 16-18, 1922.

Tennessee State Public School Officers' Association: R. L. Jones, Chattanooga; P. L. Harned, Clarksville.

Tennessee State Teachers' Association: R. L. Jones, Murfreesboro; P. L. Harned, Clarksville; Nashville, April, 1922.

**Texas:**

Home Economics Association of Texas: Joan Hamilton, Denton; Wealthy Hale, Denton; probably San Antonio, December 1, 1922.

Texas State Teachers' Association: M. H. Moore, Fort Worth; R. T. Ellis, 2938 Lipscomb Street, Fort Worth; Dallas, November 22-25, 1922.

Texas State Teachers' Association (colored): E. D. Pierson, 312 Robin Street, Houston; Mrs. F. A. Robinson, 1218 West Lacy Street, Palestine; Fort Worth, November 30, 1922.

**Utah:**

Utah Educational Association: B. Roland Lewis, Salt Lake City; Salt Lake City, October 20-22, 1921.

Utah Home Economics Association: Mrs. Neil Strowig, 261 South Fourth Street East, Salt Lake City; Florence L. Parry, 3387 Highland Drive, Salt Lake City.

**Vermont:**

Schoolmasters' Club of the State of Vermont: H. L. Dickinson, St. Albans; Eugene H. Clowse, Richmond; Rutland, October, 1921.

Vermont State Teachers' Association: Etta Franklin, Rutland; Alice Chandler, St. Albans; Rutland, October 12-14, 1921.

Vermont Women Teachers' Club: Mrs. Mary B. Buokham, Manchester; Mrs. Mary M. Deyett, Shelburne; October 12, 1922.

**Virginia:**

Association of Virginia Colleges: Charles G. Maphis, University; E. W. McWhorter, Hampden Sidney; Richmond, early February, 1922.

Cooperative Education Association of Virginia: Mrs. B. B. Munford, 508 East Grace Street, Richmond; George W. Guy, Box 1667, Richmond; Richmond, Thanksgiving week, 1922.

Public School Trustees Association of Virginia: J. B. Friend, Drakes Branch; M. F. McGehee, Keyville; Richmond, Thanksgiving week, 1922.

Rural Life Conference (University of Virginia): Chairman, Florence H. Stubbs; Charlottesville, August, 1922.

Virginia English Teachers' Association: J. R. L. Johnson, East Radford; Miss Ray Van Vost, John Marshall High School, Richmond.

Virginia Society for the Study of Education: J. Preston McConnell, East Radford; Robert T. Kerlin, Lexington.

Virginia State Primary Teachers' Association: Pauline B. Williamson, 805 East Marshall Street, Richmond; Mabel E. Culklin, State Normal School, Farmville; Richmond, November, 1922.

Virginia State Teachers' Association: J. A. C. Hurt, Mytheville; W. T. Sanger, Richmond; Richmond, last week in November, 1922.

**Washington:**

Puget Sound English Masters' Club: George W. Saunderson, Lincoln High School, Seattle; H. D. Johnson, West Seattle High School, Seattle.

Puget Sound Schoolmasters' Club: R. F. Bown, Tacoma; Frank Farrar, 6725 Twenty-fourth Avenue NW., Seattle; Tacoma, about December 1, 1922.

Washington Education Association: Ralph W. Swetman, Ellensburg; Anna L. Gifford, Seattle, Bellingham, October, 1922.

**West Virginia:**

West Virginia Council of Teachers of English: W. H. Franklin, Huntington.

West Virginia Education Association: George M. Ford, Charleston; W. W. Trent, Elkins; Huntington, November 3-5, 1922.

**Wisconsin:**

Vocational School Teachers' Association: T. S. Rees, Racine; John B. Coleman, La Crosse; Milwaukee, January 11-14, 1922.

Wisconsin Agricultural Education Association: J. M. May, River Farm; Glen Lycin, Plymouth.

Wisconsin Association for Educational Research: F. L. Clapp, University of Wisconsin, Madison; Mrs. Cecile White Flemming, State Department of Public Instruction, Madison; Milwaukee, November, 1922.

Wisconsin Association of Mathematics Teachers: Mrs. Jean Cowles Stoughton; W. W. Hart, University of Wisconsin, Madison; Milwaukee, first week in November, 1922.

Wisconsin Association of Modern Foreign Language Teachers: B. Q. Morgan, University of Wisconsin, Madison; C. F. Gillen, University of Wisconsin, Madison; Madison, April 31-May 1, 1922.

Wisconsin Association of Vocational School Directors: T. S. Rees, Racine; John B. Coleman, La Crosse; Milwaukee, January 11, 1922.

Wisconsin Colleges, Associated: Melvin A. Brannon, Beloit College, Beloit; H. P. Houghton, Marshall and Haley Bank, Milwaukee; Milwaukee.

Wisconsin History Teachers' Association: Laura E. Du Four, Racine; W. H. Hathaway, Riverside High School, Milwaukee; Milwaukee, November, 1922.

Wisconsin Music Teachers' Association: Theodore Winkler, Sheboygan; W. J. Meyer, Jefferson Studios, Milwaukee; Wausau, May, 1922.

Wisconsin Physical Education Association: J. C. Elsom, University of Wisconsin, Madison; Theresa M. Statz, State Normal School, Oshkosh; Milwaukee, November 4, 1921.

Wisconsin Teachers' Association: Thomas W. Boyce, Milwaukee; M. A. Busewitz, Milwaukee; Milwaukee, November 9-11, 1922.

**Wyoming:**

Wyoming State Teachers' Association: Mrs. Katharina A. Morton, Cheyenne; J. C. McGlade, Casper; Cheyenne, October, 1922.

**3. City.**

Association of Women Principals of Public Schools of New York City: Jessie B. Colburn, 8 West One hundred and sixth Street; Loretto M. Rochester, 845 Lexington Avenue.

Boston Principals' Association: William B. Snow, English High School; Joseph F. Gould, Bigelow School; Boston, October 5, 1921.

Boston Teachers' Club: Annie G. Scollard, 11 Bowditch Street, East Braintree, 84; Myrtle C. Dickson, 20 Whiting Street, Roxbury 19; September, 1921.

Brooklyn Teachers' Association: Frank J. Arnold, Public School 118; Emma E. Germany, Public School 118; September 19, 1921.

Chicago Principals' Club: Fred E. Smith, 3600 West Foster Avenue; Mary E. Fellows, 1922 Patterson Avenue; September 23, 1921.

Chicago Teachers' Federation: Ida L. M. Fursman, 127 North Dearborn Street; Frances E. Harden, 127 North Dearborn Street; September 10, 1921.

Chicagoland Schoolmasters' Club: C. M. Merry, Hughes High School; M. R. McElroy, Woodward High School.

Denver Teachers' Club: Margaret A. Smith, 1469 Williams Street; C. R. Christian, 3239 Franklin Street

- Detroit Teachers' Association: Howard V. Hornung, Hotel Butler; Blanche E. Morris, 3780 Wight Street; October 3, 1921.
- Educational Society of Baltimore: David E. Weglein, Baltimore City School Administration; William R. Flowers, Eastern High School; October, 1921.
- Elementary teachers' association (Baltimore): Laura W. Mainster, 3915 Gwyn Oak Avenue, Mary Bell, 2837 St. Paul Street; September 14, 1921.
- Federation of Teachers' Association of the City of New York: Isabel A. Ennis, 250 Washington Avenue, Brooklyn; Lucille Nicol, 445 Eastern Parkway, Brooklyn; New York, N. Y., September 15, 1921.
- High School Men Teachers' Association of Philadelphia: R. B. Morris, Broad and Jackson Streets; J. H. Longacre, Forty-eighth and Walnut Streets; November 4, 1921.
- High School Teachers' Association of Los Angeles City: Willis T. Newton, 219 South Burlington; G. W. Preston, 1143 Logan Street; September 19, 1921.
- High School Teachers' Association of New York City: Harold E. Buttrick, Boys High School, Brooklyn; May E. Brockman.
- Interborough Association of Women Teachers (New York City): Grace Strachan-Forsythe, 20 West Seventy-second Street; Helen A. McKeon, 5644 Clinton Street, Brooklyn.
- Los Angeles City Teachers' Club: Ida Christine Iversen, 825 West Eighth Street; Marie L. Brandt, 1019 Florida Street; September 19, 1921.
- Louisville (Ky.) Educational Association: W. C. Hatfield, 114 East Kentucky; Agnes Dickson, 1620 Lucia Avenue.
- New Haven (Conn.) Teachers' League: Bernard J. McDonald, 95 Mansfield Street; Alice E. Wyman, 269 Dwight Street; September 27, 1921.
- New York Academy of Public Education: William L. Felter, Girls' High School; T. Adrian Curtis, 120 Central Park South.
- New York City Association of Teachers of English: John Avent, Julia Richman High School; Elinor Hastings, Washington Irving High School; September 17, 1921.
- New York City Principals' Association: William Rabenort, Public School 55; Jessie B. Colburn, Public School 96; September 23, 1921.
- New York Schoolmasters' Club: Francis H. J. Paul, Forest Hills Gardens; Matthew D. Quinn, 101 East Ninety-second Street; October 8, 1921.
- New York Society for the Experimental Study of Education: John L. Tildsley, 500 Park Avenue; J. Carleton Bell, 1033 A. Sterling Place, Brooklyn.
- Oakland (Calif.) Schoolwomen's Club: Joyce Lobner, 2415 Telegraph; Myrtle Poole, 5216 Desmond Street; August, 1921.
- Oakland (Calif.) Teachers' Association: Edgar E. Muller, 3909 Lynwood Avenue; H. D. Brassfield, Fremont High School; October, 1921.
- Passaic (N. J.) Teachers' Association: Mary A. Dwyer, Madison Street; K. A. Dey, 9 Rutger Place; October, 2, 1921.
- Philadelphia Teachers' Association: Lucy L. W. Wilson, Broad and Snyder Avenue; Emily M. Renshaw, 1415 South Fifty-eighth Street, September 2, 1921.
- Pittsburgh Teachers' Association: John Adams, 1003 Bessemer Building; Ida Gealey, 1003 Bessemer Building; September 9, 1921.
- Portland (Oreg.) Grade Teachers' Association: Anna Read Ockley Green School; Anne W. Biesen, Tudor Arms Apartment; September 14, 1921.
- Public Education Association of Buffalo: Henry Ware Sprague, Erie County Bank Building; William P. Haines, 122 Pearl Street.
- Public Education Association of Chicago: C. M. Moderwell, 28 East Jackson Boulevard; Glen Edwards, 5486 Blackstone Avenue, May, 1922.
- Public Education Association of the City of New York: Charles P. Howland, 61 Broadway; Howard W. Nudd, 8 West Fortieth Street.
- Public School Teachers' Association of Baltimore: Rosell Berryman: Euclid and Woodland Avenue; Minnie Daugherty, 637 West North Avenue; October 10, 1921.
- Richmond (Va.) Elementary Teachers' Association: Ruth Redd, 1005 West Avenue; Miss Clara Somma, 2721 West Grace Street; October 12, 1921.
- Richmond (Va.) Teachers' League: W. C. Locker, 811 Seminary Avenue; Emily C. Royall, 415 West Grace Street; October, 1921.
- San Francisco Grade Teachers' Association: Mrs. E. L. Dacre, 42 Henry Street; Dorothy S. Farrell, 22 Henry Street; August, 1921.
- Schoolmasters' Association of New York and Vicinity: Herbert E. Hawkes, Columbia University; Lloyd W. Johnson, Adelphi Academy, Brooklyn, New York City, October 21, 1921.
- Schoolmaster's Club of Philadelphia: Albert W. Dudley, 6303 North Eleventh Street; Thomas J. Dobbins, 510 Midvale Avenue.
- Teachers' Council (New York City): William J. McAniff, 372 East One hundred and ninety-fourth Street; Helen A. McKeon, 564 A Clinton Street, Brooklyn.
- Utica (N. Y.) Teachers' Association: Vincent G. Brown, 104 Lyon Place, New Hartford; Luella J. Thomas, 423 Court Street; September, 1921.

#### XXIV.—LEARNED AND CIVIC ORGANIZATIONS.

The following list shows, first, the name of the organization; second, the name and address of the president; third the name and address of the secretary, fourth, the place and date of the next meeting.

- American Academy of Arts and Letters: William Milligan Sloane, Princeton, N. J.; Robert Underwood Johnson, 15 West Eighty-first Street, New York, N. Y.; New York, N. Y., November 2, 1921.
- American Academy of Medicine: William L. Estes, South Bethlehem, Pa.; T. W. Grayson, 8037 Jenkins Arcade, Pittsburgh, Pa.
- American Academy of Political and Social Science: Leo S. Rowe, Pan-American Union, Washington, D. C.; J. P. Lichtenberger, 307 Logan Hall University of Philadelphia, Philadelphia, Pa.; Philadelphia, Pa., May, 1922.
- American Association for Community Organization: W. J. Norton, 542 Griswold Street, Detroit, Mich.; Raymond Clapp, 573 Electric Building, Cleveland, Ohio; Providence, R. I., June, 1922.
- American Association for Labor Legislation: Thomas L. Chadbourne, 14 Wall Street, New York City, N. Y.; John B. Andrews, 131 East Twenty-third Street; December, 1921.
- American Association for the Advancement of Science: E. H. Moore, University of Chicago, Chicago, Ill.; Burton E. Livingston, Smithsonian Institution, Washington, D. C.; Toronto, Canada, December 27-31, 1921.
- American Association of Museums: Frederic Allen Whiting, Cleveland Museum of Art, Cleveland, Ohio; Harold L. Madison, Cleveland Museum of Natural History, Cleveland, Ohio; Buffalo, N. Y., May, 1922.

- American Chemical Society:** Edgar F. Smith, University of Pennsylvania, Philadelphia, Pa.; Charles L. Parsons, 1709 G Street NW., Washington, D. C.; New York, N. Y., September 6-10, 1921.
- American Child Hygiene Association:** Henry L. K. Shaw, 361 State Street, Albany, N. Y.; H. F. Helmholz, Mayo Clinic, Rochester, Minn.; New Haven, Conn., November 2-5, 1921.
- American Civic Association:** J. Horace McFarland, Harrisburg, Pa.; Harlean James, 905 Union Trust Building, Washington, D. C.; Chicago, Ill., November 13-17, 1921.
- American Country Life Association:** Kenyon L. Butterfield, Amherst, Mass.; Charles J. Galpin, Washington, D. C.; New Orleans, La., November 10-12, 1921.
- American Economic Association:** Jacob H. Hollander, Johns Hopkins University, Baltimore, Md.; Ray R. Westerfield, Yale Station, New Haven, Conn.; Pittsburgh, Pa., last week December, 1921.
- American Forestry Association:** Charles Lathrop Pack, Lakewood, N. J.; Percival Sheldon Ridsdale, 1214 Sixteenth Street NW., Washington, D. C.
- American Genetic Association:** David Fairchild, Box 354, Pennsylvania Avenue Station, Washington, D. C.; George M. Rommel, Box 354, Pennsylvania Avenue Station, Washington, D. C.; Washington, D. C., January 12, 1922.
- American Geographical Society:** John Greenough, Broadway at One hundred and fifty-sixth Street, New York, N. Y.; Isaiah Bowman, Broadway at One hundred and fifty-sixth Street, New York, N. Y., November 22, 1921.
- American Historical Association:** Jules Jusserand, French Embassy, Washington, D. C.; John Spencer Bassett, Northampton, Mass.; St. Louis, Mo., December 27, 1921.
- American Library Association:** Asariah S. Root, Oberlin College Library, Oberlin, Ohio; Carl H. Milam, 78 East Washington Street, Chicago, Ill.; Detroit, Mich., June 26-July 1, 1922.
- American Mathematical Society:** G. A. Bliss, University of Chicago, Chicago, Ill.; R. G. D. Richardson, Brown University, Providence, R. I.; Wellesley, Mass., September 7-9, 1921.
- American Medical Association:** George Edmund de Schweinitz, 1706 Walnut Street, Philadelphia, Pa.; Alexander R. Craig, 535 North Dearborn Street, Chicago, Ill.; St. Louis, Mo.
- American Philological Association:** Walton Brooks McDaniel, University of Pennsylvania, Philadelphia, Pa.; Clarence P. Bill, Adelbert College, Cleveland, Ohio; Ann Arbor, Mich., December 28-30, 1921.
- American Philosophical Association, Eastern Division:** W. H. Sheldon, Yale University, New Haven, Conn.; A. H. Jones, Brown University, Providence, R. I.; Vassar College, Poughkeepsie, N. Y., December 25-31, 1921.
- American Philosophical Society:** William B. Scott, Princeton, N. J.; I. Minis Hays, 104 South Fifth Street, Philadelphia, Pa.; Philadelphia, Pa., April 20-22, 1922.
- American Political Science Association:** Leo S. Rowe, Pan American Union, Washington, D. C.; Frederic A. Ogg, University of Wisconsin, Madison, Wis.; Pittsburgh, Pa., December 27-29, 1921.
- American Psychological Association:** Margaret F. Washburn, Vassar College, Poughkeepsie, N. Y.; Edwin G. Boring, Clark University, Worcester, Mass.; Princeton, N. J., December 28-30, 1921.
- American Public Health Association:** M. P. Ravenel, University of Missouri, Columbia, Mo.; A. W. Hedrich, 370 Seventh Avenue, New York, N. Y.; New York, N. Y., November 14-18, 1921.
- American Social Hygiene Association:** Hermann M. Biggs, 370 Seventh Avenue, New York, N. Y.; Donald R. Hooker, Baltimore, Md.; New York, N. Y., November, 1921.
- American Society for Thrift:** S. W. Straus, Straus Building, New York, N. Y.; Henry R. Daniel, 9 East Forty-sixth Street, New York, N. Y.
- American Sociological Society:** Edward Cary Hayes, University of Illinois, Urbana, Ill.; Ernest W. Burgess, University of Chicago, Chicago, Ill.; Pittsburgh, Pa., December 27-29, 1921.
- American Statistical Association:** Carroll W. Doten, 222 Charles River Road, Cambridge, Mass.; Robert E. Chaddock, Columbia University, New York, N. Y.; Pittsburgh, Pa., December 27-30, 1921.
- Association of American Geographers:** Ellen Churchill Semple, 509 West Ormsby Avenue, Louisville, Ky.; Richard E. Dodge, Storrs, Conn.; Washington, D. C., December 29-31, 1921.
- Botanical Society of America:** Charles E. Allen, University of Wisconsin, Madison, Wis.; J. R. Schramm, 110 Stewart Avenue, Ithaca, N. Y.; Toronto, Canada, December 27-31, 1921.
- Child Conservation League of America:** Winfield Scott Hall, 3136 Ivson Avenue, Berwyn, Ill.; Mrs. Mary Laux Beckwith, Room 1113, Woman's Temple, Chicago, Ill.; Chicago, Ill., March 16, 1922.
- Child Health Organization of America:** L. Emmett Holt, 156 West Fifty-eighth Street, New York, N. Y.; Frederick Peterson, Hotel Chatham, New York, N. Y.; October, 1921.
- Farm Women's National Congress:** Mrs. Fannie M. Klinck, Clarkville, Iowa; Mrs. Nettie Dennison, Vermilion, S. D.
- Geological Society of America:** James F. Kemp, Columbia University, New York, N. Y.; E. O. Hovey, American Museum of Natural History, New York, N. Y.; Amherst, Mass., December 28-30, 1921.
- Inter-Racial Council:** Secretary, M. I. Pupin, Columbia University, New York, N. Y.
- Jewish Agricultural and Industrial Aid Society:** Cyrus L. Sulzberger, 516 West End Avenue, New York, N. Y.; Eugene S. Benjamin, 1019 Madison Avenue, New York, N. Y.
- Mathematical Association of America:** G. A. Miller, University of Illinois, Urbana, Ill.; W. D. Cairns, Oberlin College, Oberlin, Ohio; Toronto, Canada, December, 1921.
- Military Training Camps Association of the United States:** Archibald G. Thacher, 19 West Forty-fourth Street, New York, N. Y.; Arthur F. Cosby, 19 West Forty-fourth Street, New York, N. Y.; New York, N. Y., July, 1921.
- Modern Language Association of America:** William Guild Howard, 39 Kirkland Street, Cambridge, Mass.; Carleton Brown, Bryn Mawr College, Bryn Mawr, Pa.; Baltimore, Md., December 28-30, 1921.
- Modern Language Teachers' Association of the Central West and South:** A. R. Hohlfield, 124 Breese Terrace, Madison, Wis.; C. H. Handschin, Oxford, Ohio; Chicago, Ill., May, 1922.
- National Academy of Sciences:** Charles Doolittle Walcott, Smithsonian Institution, Washington, D. C.; Charles Greeley Abbot, Smithsonian Institution, Washington, D. C.
- National Agricultural Society:** Howard R. Smith, Live Stock Exchange Building, Chicago, Ill.; Robert Seoville, Hartford, Conn.
- National Association of Audubon Societies:** T. Gilbert Pearson, 1974 Broadway, New York, N. Y.; William P. Wharton, Groton, Mass.; New York, N. Y., January, 1922.
- National Child Welfare Association:** William H. Wadhams, 48 East Seventy-eighth Street, New York, N. Y.; Charles F. Powlson, 70 Fifth Avenue, New York, N. Y.; New York, N. Y., January 9, 1922.
- National Civic Federation:** Alton B. Parker, 61 Broadway, New York, N. Y.; D. L. Cease, Cleveland, Ohio.
- National Community Board:** Henry E. Jackson, 1516 H Street NW., Washington, D. C.; Oliver P. Newman, 1516 H Street NW., Washington, D. C.; Washington, D. C., April 13, 1922.
- National Conference of Social Work:** Robert W. Kelso, 46 Cornhill, Boston, Mass.; William Hammond Parker, 25 East Ninth Street, Cincinnati, Ohio; Providence, R. I., June, 1922.
- National Economic League:** Secretary, J. W. Beaton, 6 Beacon Street, Boston, 9, Mass.
- National Efficiency Society:** Melvil Dewey, Lake Placid Club, N. Y.; H. F. J. Porter, 522 Fifth Avenue, New York, N. Y.; New York, N. Y., January, 1922.

National Geographic Society: Gilbert Grosvenor, National Geographic Society, Washington, D. C.; O. P. Austin, National Geographic Society, Washington, D. C.; Washington, D. C.  
 National Historical Society: Frank Allaben, 37 West Thirty-ninth Street, New York, N. Y.; Mabel T. R. Washburn, 37 West Thirty-ninth Street, New York, N. Y.  
 National Institute of Arts and Letters: Robert Grant, 211 Bay State Road, Boston, Mass.; Jefferson B. Fletcher, Columbia University, New York, N. Y.; New York, N. Y., January, 1922.  
 National Institute of Social Sciences: Secretary, Jessie Knight, Rio de Janeiro, Brasil, S. A.  
 National Municipal League: H. M. Waite, 105 West Fortieth Street, New York, N. Y.; H. W. Dodds, 261 Broadway, New York, N. Y.; Chicago, Ill., November 16-18, 1921.  
 National Research Council: John C. Merriam, Carnegie Institution, Washington, D. C.; Vernon Kellogg, 1701 Massachusetts Avenue NW., Washington, D. C.  
 National Safety Council: C. P. Tolman, 111 Broadway, New York, N. Y.; Sidney J. Williams, 168 North Michigan Avenue, Chicago, Ill.; Boston, Mass., September 26-30, 1921.  
 National Security League: Charles D. Orth, 17 East Forty-ninth Street, New York, N. Y.; E. L. Harvey, 17 East Forty-ninth Street, New York, N. Y.; New York, N. Y., September 17, 1921.  
 Pan American Society of the United States: John Bassett Moore, 267 West Seventy-third Street, New York, N. Y.; John S. Prince, 15 Broad Street, New York, N. Y.; New York, February 13, 1921.  
 Society for the Promotion of Agricultural Science: Burt L. Hartwell, Kingston, R. I.; Jacob G. Lipman, New Brunswick, N. J.; New Orleans, La., November 7-8, 1921.  
 Southern Cooperative League: Philander P. Claxton, University of Alabama, University, Ala.; J. E. McCulloch, 817 Fourteenth Street NW., Washington, D. C.; Chattanooga, Tenn., November 6-9, 1921.  
 Woman's National Farm and Garden Association: Mrs. Russell Tyson, 1728 Stevens Building, Chicago, Ill.; Mrs. P. L. Richtmyer, 1728 Stevens Building, Chicago, Ill.; spring, 1922.  
 Workers' Educational Bureau of America: James H. Maurer, Harrisburg, Pa.; Spencer Miller, 465 West Twenty-third Street, New York, N. Y.; 465 West Twenty-third Street, New York, N. Y., August 20, 1921.

## XXV.—NATIONAL CONGRESS OF MOTHERS AND PARENT-TEACHER ASSOCIATIONS.

The officers of the National Congress of Mothers and Parent-Teacher Associations are: President, Mrs. Milton P. Higgins, 228 West Street, Worcester, Mass.; Executive Secretary, Mrs. Arthur Watkins, 1201 Sixteenth Street NW., Washington, D. C. Annual meeting, May 8-12, 1922, Takoma, Wash.

Name.	President.	Secretary.	Place of meeting.
Alabama.....	Mrs. H. S. Doster, Prattville.	Mrs. B. F. Hardeman, 404 Washington Ave.	
Arizona.....	Mrs. John Langdon, Clemenceau.	Mrs. R. F. Washburn, 741 W. Pierce St., Phoenix.	Phoenix, March 23, 24, 25, 1922.
California.....	Mrs. Harry J. Ewing, 70 East William St., San Jose.	Mrs. John F. Sheehan, 117 Alpine Terrace, San Francisco.	San Jose, July 12, 1921.
Colorado.....	Mrs. Richard Crawford Campbell, 1075 Pennsylvania St., Denver.	Mrs. C. E. Roe, 517 Kiltredge Building, Denver.	Second Thursday of each month.
Connecticut.....	Mrs. E. C. Littlefield, 448 Orange St., New Haven.		
Delaware.....	Mrs. John B. Cleaver, Middletown.		
District of Columbia.....	Mrs. G. S. Rafters, 1774 Kilbourne Place, Washington, D. C.		
Florida.....	Mrs. Arthur C. Cummer, Jacksonville.		
Georgia.....	Mrs. C. A. Hilbun, 175 Rivoli, Macon.		
Idaho.....	Mrs. S. J. Ewen, Boise.	Mrs. Julius Foto, 32 North Mayfield Ave., Chicago.	Chicago, May, 1922.
Illinois.....	Mrs. Wm. F. Young, 220 Myrtle St., Winnetke.	Mrs. Rollin J. Cheney, 1004 Vincennes St., New Albany.	Indianapolis, Oct. 20-22, 1921.
Indiana.....			
Iowa.....	Miss Carolyn E. Forgrave, Perry.	Mrs. H. G. Drake, 1405 23d St., Des Moines.	Mason City, Oct. 12, 13, 1921.
Kansas.....	Mrs. J. K. Coddling, Lansing.	Miss Lillian Kuntz, 810 S. 2nd, Leavenworth.	Wichita, between Mar. 15 and 25, 1922.
Kentucky.....	Mrs. George C. Weldon, Eastleigh, Louisville.	Miss Elizabeth P. Stouffer, Apt. 23, Wessinger-Gaulbert, Louisville.	Louisville, April, 1922.
Maine.....	Mrs. Frederick P. Abbott, Saco.	Miss Lydia R. Rideout, Saco.	June, 1922.
Maryland.....	Mrs. Harry E. Parkhurst, 1410 Park Ave., Baltimore.		
Massachusetts.....	Mrs. Edward C. Mason, 8 Grove St., Winchester.	Mrs. H. Y. Neal, Packard Ave., Tufts College.	Springfield, Oct. 13, 14, 15, 1921.
Michigan.....	Mrs. F. W. Kiefer, Port Huron.		
Mississippi.....	Mrs. H. P. Hughes, Gulf Park, Gulfport.	Mrs. Ernest Bennett, Natchez.	Jackson, May 1, 1922.
Missouri.....	Mrs. William Ullmann, 521 E. Walnut St., Springfield.	Mrs. A. B. Sherwood, 412 Harrison, Springfield.	Springfield, July 19.
Montana.....	Mrs. E. C. Elliott, Helena.		
New Hampshire.....	Mrs. C. L. Simmers, Durham.		

## XXV.—NATIONAL CONGRESS OF MOTHERS AND PARENT-TEACHER ASSOCIATIONS—Continued.

Name.	President.	Secretary.	Place of meeting.
New Jersey.....	Mrs. D. W. Cooper, Montclair.	Mrs. Wm. F. Little, 110 Elm Ave., Rahway.	Trenton, Nov. 9 and 10, 1921.
New Mexico.....	Mrs. Ruth C. Miller, Santa Fe.	Mrs. Jessie Gray, Hot Springs.	Albuquerque, Thanksgiving week.
New York.....	Mrs. M. C. Holley, 175 Locust St., Lockport.	Mrs. F. D. Bidwell, 55 Manning Blvd., Albany.	Rochester, Oct. 3-7, 1921.
North Carolina.....	Mrs. Joseph Garibaldi, 214 Park St., Charlotte.		
North Dakota.....	Mrs. F. B. Naylor, Laramore.	Albert H. Yoder, Univ. of North Dakota, Grand Forks.	
Ohio.....	Mrs. S. M. Williams, 1534 Lakewood Ave., Lima.	Mrs. Charles Axline, No. 8, The Priscilla, Cincinnati.	Warren, Oct. 12, 14, 15, 1921.
Oregon.....	Mrs. J. F. Hill, 218 Knott St., Portland.	Mrs. J. F. Risley, R. R., Milwaukee.	Pendleton, May 11-14, 1921.
Pennsylvania.....	Mrs. E. E. Kiernan, Somerset.	Mrs. C. T. Saylor, Rockwood.	Altoona, Oct. 5, 6, 7.
Rhode Island.....	Mrs. E. S. Moulton, 96 Alumni Ave., Providence.	Mrs. James J. McCabe, 130 Messer St., Providence.	Providence, April.
South Dakota.....	Mrs. H. R. Kenaston, Bonesteel.	Mrs. W. S. Hill, Mitchell.	
Tennessee.....	Mrs. E. Crutcher, 817 Lischey Ave., Nashville.	Mrs. G. M. Whittemore, 1501 Ashwood Ave., Nashville.	Paris, last week in October.
Texas.....	Mrs. S. M. N. Marrs, Capitol Station, Austin.	Mrs. Noyes D. Smith, 801 W. 21st St., Austin.	San Antonio, some time in November.
Utah.....	Mrs. John E. Dooley, 508 E. S. Temple St., Salt Lake City.		
Vermont.....	Mrs. P. W. Freeman, Rutland.		
Virginia.....	Mrs. Harry Semones, 601 McBain Bldg., Roanoke.	Mrs. R. B. Embree, Buena Vista.	April, 1922.
Washington.....	Mrs. C. A. Varney, Yakima.	Mrs. M. A. Peacock, Yakima.	Everett, April or May, 1922.
Wisconsin.....	Mrs. George N. Trumper, 734 Prairie Ave., Kenosha.		

## XXVI—EDUCATIONAL PERIODICALS

*List of American educational periodicals currently received by the library of the Bureau of Education.*

- [List of abbreviations: bm.—bimonthly; ir.—irregular; m.—monthly; q.—quarterly; sm.—semimonthly; w.—weekly.]
- Alabama School Journal. 130 South Nineteenth Street, Birmingham. 10 nos.
  - American Child. 105 East Twenty-second Street, New York, N. Y. q.
  - American Cookery. 221 Columbus Avenue, Boston, Mass. 10 nos.
  - American Education. 50 State Street, Albany, N. Y. 10 nos.
  - American Journal of School Hygiene. Worcester, Mass. q.
  - American Oxonian. 18 North Main Street, Concord, N. H. q.
  - American Penman. 30 Irving Place, New York, N. Y. m.
  - American Physical Education Review. Springfield, Mass. 10 nos.
  - American School. P. O. Box 659, Milwaukee, Wis. m.
  - American School Board Journal. 354 Milwaukee Street, Milwaukee, Wis. m.
  - American Schoolmaster. Ypsilanti, Mich. 10 nos.
  - American Teacher. 70 Fifth Avenue, New York, N. Y. 10 nos.
  - Arizona Teacher and Home Journal. Phoenix. 10 nos.
  - Arkansas Teacher. Little Rock. 10 nos.
  - Artisan. State Trade School, Bridgeport, Conn. q.
  - Boston Teachers' News-Letter. Ford Building, Boston. 10 nos.
  - Bulletin of High Points in the Work of the High Schools of New York City. Board of Education Building New York. 10 nos.
  - Business Educator. Columbus, Ohio. 10 nos.
  - California. See California Blue Bulletin; Los Angeles School Journal; Sierra Educational News; University of California Chronicle; Western Journal of Education.
  - Catholic Educational Review. Washington, D. C. 10 nos.
  - Catholic School Journal. Milwaukee, Wis. 10 nos.
  - Chicago Schools Journal. Chicago Normal College, Chicago. 10 nos.
  - Child-Welfare Magazine. 41 North Queen Street, Lancaster, Pa. m.
  - Christian Education. 19 South La Salle Street, Chicago, Ill. m.
  - Christian Education Monthly. Nashville, Tenn. m.
  - Christian Educator. Washington, D. C. 10 nos.
  - Christian Educator. 420 Plum Street, Cincinnati, Ohio. 10 nos.
  - Christian Student. 150 Fifth Avenue, New York, N. Y. q.

- Church School. 150 Fifth Avenue, New York, N. Y. m.  
 Classical Journal. University of Chicago Press, Chicago, Ill. 9 nos.  
 Classical Weekly. Barnard College, New York, N. Y. w. from October to May.  
 Colorado School Journal. Denver. 10 nos.  
 Common Ground. Somerville, Mass. q.  
 Community and Tourist Magazine. Duluth, Minn. m.  
 Community Center. Mount Morris, Ill. ir.  
 Connecticut. *See* Artisan; Connecticut Schools.  
 Connecticut Schools. Hartford. 10 nos.  
 District of Columbia. *See* Catholic Educational Review; Christian Educator; Educational Record; Junior Red Cross News; Journal of the National Education Association; Quarterly Magazine of the Southern Industrial Educational Association; School Life; Volta Review.  
 Education. 120 Boylston Street, Boston, Mass. 10 nos.  
 Education Bulletin. Trenton, N. J. 10 nos.  
 Educational Administration and Supervision. Warwick & York (Inc.), Baltimore, Md. 10 nos.  
 Educational Film Magazine. 33 West Forty-second Street, New York, N. Y. 10 nos.  
 Educational Foundations. 31-33 East Twenty-seventh Street, New York, N. Y. 10 nos.  
 Educational Issues. 801-2 Occidental Building, Indianapolis, Ind. m.  
 Educational Record. 818 Connecticut Avenue, Washington, D. C. q.  
 Educational Review. Doubleday, Page & Company, Garden City, N. Y. 10 nos.  
 Educator-Journal. 610 Lemcke Building, Indianapolis, Ind. m.  
 Elementary School Journal. University of Chicago, Chicago, Ill. 10 nos.  
 Engineering Education. Bulletin of the Society for the Promotion of Engineering Education. Lancaster, Pa. 10 nos.  
 English Journal. University of Chicago Press, Chicago, Ill. 10 nos.  
 English Leaflet. Concord, N. H. 7 nos.  
 General Science Quarterly. Salem, Mass. q.  
 Georgia. *See* High School Quarterly; National Note-book Quarterly; School and Home.  
 Harvard Graduates' Magazine. 90 State Street, Boston, Mass. q.  
 Hawaii Educational Review. Honolulu. 10 nos.  
 High School Journal. Chapel Hill, N. C. 8 nos.  
 High School Quarterly. Athens, Ga. q.  
 Historical Outlook. McKinley Publishing Co., Philadelphia, Pa. 9 nos.  
 Home and School Guest. Stroudsburg, Pa. q.  
 Hospital School Journal. Farmington, Mich. bm.  
 Idaho Teacher. Boise, Iowa. 10 nos.  
 Illinois. *See* Chicago Schools Journal; Christian Education; Classical Journal; English Journal; Illinois Association of Teachers of English Bulletin; Illinois Teacher; Journal of Educational Method; Journal of Educational Research; Manual Training Magazine; Modern Language Journal; Religious Education; School and Home Education; School Century; School News and Practical Educator; School Review; School Science and Mathematics; University Record; Visual Education.  
 Illinois Association of Teachers of English Bulletin. Urbana. 8 nos.  
 Illinois Teacher. Bloomington. 10 nos.  
 Indiana. *See* Educational Issues; Educator-Journal.  
 Industrial-Arts Magazine. Bruce Publishing Co., Milwaukee, Wis. m.  
 Inter-Mountain Educator. Missoula, Mont. 10 nos.  
 Iowa. *See* Junior High Clearing House; Midland Schools; School Music.  
 Johns Hopkins Alumni Magazine. Baltimore, Md. q.  
 Journal of Applied Psychology. Worcester, Mass. q.  
 Journal of Education. 6 Beacon Street, Boston, Mass. w.  
 Journal of Educational Psychology. Warwick & York (Inc.), Baltimore, Md. 10 nos.  
 Journal of Educational Method. World Book Company, Yonkers, N. Y. 10 nos.  
 Journal of Educational Research. Public School Publishing Co., Bloomington, Ill. 10 nos.  
 Journal of Experimental Psychology. Princeton, N. J. bm.  
 Journal of Geography. State Teachers College, Mankato, Minn. 9 nos.  
 Journal of Home Economics. 1211 Cathedral Street, Baltimore, Md. m.  
 Journal of the National Education Association. 1201 Sixteenth Street NW., Washington, D. C. 10 nos.  
 Journal of the New York Teachers' Association. Rochester. 8 nos.  
 Junior High Clearing House. Sioux City, Iowa. 8 nos.  
 Junior Red Cross News. Washington, D. C. 9 nos.  
 Kansas. *See* Kansas Teacher; Teaching.  
 Kansas Teacher. 923 Kansas Avenue, Topeka. m.  
 Kentucky. *See* Kentucky Education Association Bulletin; Kentucky High School Quarterly; Southern School Journal.  
 Kentucky Education Association Bulletin. Louisville. m.  
 Kentucky High School Quarterly. Lexington. q.  
 Kindergarten and First Grade. Springfield, Mass. 10 nos.  
 Kindergarten-Primary Magazine. Manistee, Mich. bm.  
 Los Angeles School Journal. 422-23 Chamber of Commerce Building, Los Angeles, Calif. w.  
 Louisiana. *See* Southern School Work.  
 Maine State School Bulletin. Augusta. 10 nos.  
 Manual Training Magazine. Peoria, Ill. m.  
 Maryland. *See* Educational Administration and Supervision; Johns Hopkins Alumni Magazine; Journal of Educational Psychology; Journal of Home Economics; Mother and Child.  
 Massachusetts. *See* American Cookery; American Journal of School Hygiene; American Physical Education Review; Boston Teachers' News-Letter; Common Ground; Education; English Leaflet; General Science Quarterly; Harvard Graduates' Magazine; Journal of Applied Psychology; Journal of Education; Kindergarten and First Grade; Pedagogical Seminary; Popular Educator; Primary Education; School Arts Magazine.  
 Mathematics Teacher. Lancaster, Pa. q.  
 Mental Hygiene. 27 Columbia Street, Albany, N. Y. q.  
 Michigan. *See* American Schoolmaster; Hospital School Journal; Kindergarten-Primary Magazine; Moderator-Topics.  
 Middle-West School Review. Omaha, Nebr. 10 nos.  
 Midland Schools. Des Moines, Iowa. 10 nos.  
 Mind and Body. New Ulm, Minn. m.  
 Minnesota. *See* Community and Tourist Magazine; Journal of Geography; Mind and Body; Minnesota Teacher; National School Building Journal; National School Digest.  
 Minnesota Teacher. Minneapolis. q.

- Mississippi Educational Advance. Jackson. 10 nos.  
 Missouri. *See* Missouri School Journal; Rural School Messenger; School and Community.  
 Missouri School Journal. Jefferson City. m.  
 Moderator-Topics. Lansing, Mich. w. except July and August.  
 Modern Language Journal. 7650 Saginaw Avenue, Chicago, Ill. 8 nos.  
 Montana. *See* Inter-Mountain Educator.  
 Modern Rural School and Home Magazine. Oklahoma City, Okla. m.  
 Mother and Child. 1211 Cathedral Street, Baltimore, Md. bm.  
 National Association of Corporation Training Bulletin. 130 East Fifteenth Street, New York, N. Y. m.  
 National Note-book Quarterly. Augusta, Ga. q.  
 National School Digest. 1405 University Avenue SE., Minneapolis, Minn. 9 nos.  
 Nature-Study Review. Ithaca, N. Y. 9 nos.  
 Nebraska Teacher. Lincoln. 10 nos. Nebraska. *See* Middle-West School Review; Nebraska Teacher.  
 Nevada Educational Bulletin. Carson City. 10 nos.  
 New Hampshire. *See* American Oxonian.  
 New Jersey. *See* Education Bulletin; Journal of Experimental Psychology; Newark School Bulletin; School News; Training School Bulletin.  
 New York. *See* American Child; American Education; American Penman; American Teacher; Bulletin of High Points in the Work of the High Schools of New York City; Christian Student; Church School; Classical Weekly; Educational Film Magazine; Educational Foundations; Educational Review; Journal of the New York State Teachers' Association; Mental Hygiene; National Association of Corporation Training Bulletin; Nature-Study Review; Normal Instructor and Primary Plans; Playground; School and Community; School and Home; School and Society; School Magazine; Teachers College Record; Teacher's Monographs; Ungraded; Vocationalist.  
 Newark School Bulletin. Newark, N. J. 10 nos.  
 Normal Instructor and Primary Plans. Dansville, N. Y. 10 nos.  
 North Carolina. *See* High School Journal; North Carolina Education; Training School Quarterly.  
 North Carolina Education. Raleigh. 10 nos.  
 North Dakota. *See* Quarterly Journal of the University of North Dakota.  
 Northwest Journal of Education. Seattle, Wash. 10 nos.  
 Ohio. *See* Business Educator; Christian Educator; Ohio Educational Monthly; Ohio History Teachers' Journal; Ohio State University Monthly; Ohio Teacher; School Index; Sunday School Journal.  
 Ohio Educational Monthly. Columbus, Ohio. m.  
 Ohio History Teachers' Journal. Columbus. q.  
 Ohio State University Monthly. Columbus. q.  
 Ohio Teacher. Columbus. m.  
 Oklahoma. *See* Modern Rural School and Home Magazine; Oklahoma School Herald; Oklahoma Teacher.  
 Oklahoma School Herald. Tulsa. 10 nos.  
 Oklahoma Teacher. Oklahoma City. 10 nos.  
 Oregon Teachers' Monthly. Salem. 10 nos.  
 Pedagogical Seminary. Worcester, Mass. q.  
 Pennsylvania. *See* Child-Welfare Magazine; Engineering Education; Historical Outlook; Home and School Guest; Mathematics Teacher; Pennsylvania School Journal; Pittsburgh School Bulletin; Psychological Clinic.  
 Pennsylvania School Journal. Lebanon. 10 nos.  
 Philippine Education. Manila. 10 nos.  
 Philippine News Review. Manila. sm.  
 Pittsburgh School Bulletin. 1003 Bessemer Building, Pittsburgh, Pa. 10 nos.  
 Playground. 1 Madison Avenue, New York, N. Y. m.  
 Popular Educator. 50 Bromfield Street, Boston, Mass. 10 nos.  
 Porto Rico School Review. San Juan. 10 nos.  
 Primary Education. 50 Bromfield Street, Boston, Mass. 10 nos.  
 Progressive Teacher. Morristown, Tenn. 10 nos.  
 Psychological Clinic. Woodland Avenue and Thirty-sixth Street, Philadelphia, Pa. 9 nos.  
 Quarterly Journal of Speech Education. Ann Arbor, Mich. q.  
 Quarterly Journal of the University of North Dakota. University. q.  
 Quarterly Magazine of the Southern Industrial Educational Association. Washington, D. C. q.  
 Religious Education. 1440 East Fifty-seventh Street, Chicago, Ill. bm.  
 Rural Education. Aberdeen, S. Dak. m.  
 Rural School Messenger. Kirksville, Mo. q.  
 School. 154 Fifth Avenue, New York, N. Y. w.  
 School and Community. Buffalo, N. Y. sm.  
 School and Community. Columbia, Mo. 10 nos.  
 School and Home. Atlanta, Ga. m.  
 School and Home. Ethical Culture School, New York, N. Y. 3 nos.  
 School and Home Education. Bloomington, Ill. 10 nos.  
 School and Society. Garrison, N. Y. w.  
 School Arts Magazine. 25 Foster Street, Worcester, Mass. 10 nos.  
 School Century. Oak Park, Ill. 10 nos.  
 School Index. Cincinnati, Ohio. w.  
 School Life. Bureau of Education, Washington, D. C. m.  
 School Magazine. Buffalo, N. Y. m.  
 School Music. Keokuk, Iowa. bm. except July and August.  
 School News. Newark, N. J. m.  
 School News and Practical Educator. Taylorville, Ill. 10 nos.  
 School Review. University of Chicago, Chicago, Ill. 10 nos.  
 School Science and Mathematics. Mount Morris, Ill. 9 nos.  
 Sierra Educational News. San Francisco, Calif. 10 nos.  
 South Carolina Education. Columbia. 8 nos.  
 South Dakota. *See* Rural Education; South Dakota Educator.  
 South Dakota Educator. Mitchell. 10 nos.  
 Southern School Journal. Louisville, Ky. m.  
 Southern School Work. Alexandria, La. 10 nos.  
 Southern Workman. Hampton, Va. m.  
 Southwestern School Review. Austin, Tex. 6 nos.  
 Sunday School Journal. Methodist Book Concern, Cincinnati, Ohio. m.  
 Teachers College Record. Teachers College, Columbia University, New York, N. Y. bm. except July.



Teacher's Monographs. 8 East Fifteenth Street, New York, N. Y.  
 Teaching. Emporia, Kans. bm.  
 Tennessee. See Christian Education Monthly; Progressive Teacher.  
 Texas. See Southwestern School Review; Texas Outlook; Texas School Journal.  
 Texas Outlook. Fort Worth. 11 nos.  
 Teaxs School Journal. Dallas and Austin. 10 nos.  
 Training School Bulletin. Vineland, N. J. 10 nos.  
 Training School Quarterly. Greenville, N. C. q.  
 Ungraded. 500 Park Avenue, New York, N. Y. 9 nos.  
 University of California Chronicle. Berkeley. q.  
 University Record. University of Chicago Press, Chicago, Ill. q.  
 Utah Educational Review. Salt Lake City. 10 nos.  
 Virginia. See Southern Workman; Virginia Journal of Education; Virginia Teacher.  
 Virginia Journal of Education, Richmond. 10 nos.  
 Virginia Teacher. Normal Station, Harrisonburg. m.  
 Visual Education. 327 South La Salle Street, Chicago, Ill. 10 nos.  
 Vocationist. Oswego, N. Y. q.  
 Volta Review. Thirty-fifth Street and Volta Place, Washington, D. C. m.  
 Washington. See Northwest Journal of Education; Washington Education Journal.  
 Washington Education Journal. Seattle. 10 nos.  
 Western Journal of Education. 1111-12 Hearst Building, San Francisco, Calif. m.  
 Wisconsin. See American School; American School Board Journal; Catholic School Journal; Industrial Arts Magazine; Wisconsin Educational Horizon; Wisconsin Journal of Education.  
 Wisconsin Educational Horizon. Madison. bm.  
 Wisconsin Journal of Education. Madison. 10 nos.  
 Wyoming Educational Bulletin. Cheyenne. m.



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PUBLICATIONS

OCTOBER, 1921



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# MONTHLY RECORD OF CURRENT EDUCATIONAL PUBLICATIONS.

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CONTENTS.—Proceedings of associations—Educational history and biography—Current educational conditions—Educational theory and practice—Educational psychology; Child study—Educational tests and measurements—Special methods of instruction—Special subjects of curriculum—Kindergarten and primary school—Rural life and culture—Rural education—Secondary education—Teacher training—Teachers' salaries and professional status—Higher education—School administration—School management—School buildings and grounds—School hygiene and sanitation—Sex hygiene—Physical training—Play and recreation—Social aspects of education—Child welfare—Moral education—Religious and church education—Manual and vocational training—Vocational guidance—Workers' education—Agriculture—Home economics—Professional education—Civic education—Americanization—Education of women—Negro education—Education of deaf—Exceptional children—Education extension—Libraries and reading—Bureau of Education: Recent publications.

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## NOTE.

The record comprises a general survey in bibliographic form of current educational literature, domestic and foreign, received during the monthly period preceding the date of publication of each issue. An index to the record is provided for each year, making the series available for permanent use as an annual bibliography of education. The index to the 10 numbers of the record, February, 1920–January, 1921, covering the literature of 1920, is issued as Bulletin, 1921, no. 31.

This office can not supply the publications listed in this bulletin, other than those expressly designated as publications of the Bureau of Education. Books, pamphlets, and periodicals here mentioned may ordinarily be obtained from their respective publishers, either directly or through a dealer, or, in the case of an association publication, from the secretary of the issuing organization. Many of them are available for consultation in various public and institutional libraries.

Publications intended for inclusion in this record should be sent to the library of the Bureau of Education, Washington, D. C.

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## PROCEEDINGS OF ASSOCIATIONS.

1192. Association of colleges and secondary schools of the Southern states. Proceedings of the twenty-fifth annual meeting, Chattanooga, Tenn., December 2, 3, 1920. Tulane university press, New Orleans [1921?] 114 p. 8°. (Edward A. Bechtel, secretary, Tulane university, New Orleans, La.)

Contains: 1. J. T. Wright: Character education in relation to citizenship, p. 40–53. 2. J. P. McCallie: The need of moral and religious training in school and college and how to meet it, p. 53–67. 3. G. F. Zook: The problem of teacher supply, p. 74–84. 4. A. Beziat: Modern methods of teaching elementary French, p. 97–110.

1193. **California high school teachers' association.** Proceedings, 1921. Sierra educational news, August 1921.

Contains: 1. Will C. Wood: The demands of changing conceptions of government on education, p. 10-17. 2. J. R. McKillop: How to secure an active community interest in the school, p. 26-29. 3. E. D. Shurter: Americanization and the schools, p. 29-32. 4. Nicholas Ricciardi: Making the public school product marketable, p. 52-56.

1194. **Michigan schoolmasters' club.** Journal of the . . . fifty-sixth meeting, held in Ann Arbor, March 31, April 1, 1921. Ann Arbor, Michigan, [1921] 73 p. 8°. (Louis P. Jocelyn, secretary, Ann Arbor, Mich.)

Contains: 1. R. L. Baldwin: Function of music in education, p. 7-17. 2. W. D. Reeve: Homogeneous classification of high school children according to ability shown on psychological tests, p. 18-26. 3. W. G. Smeaton: The foundation for more work in chemistry, p. 27-34.

1195. **New Jersey state teachers' association.** Annual report and proceedings of the 66th annual meeting . . . Atlantic City, N. J., December 28-30, 1920. Camden, N. J., Sinnickson Chew & sons co., 1921. 247 p. 8°. (H. J. Neal, secretary, Collingswood, N. J.)

Contains: 1. A. E. Winship: Making the public schools the public's school, p. 38-39. 2. J. R. P. Brock: Work of the colored schools, p. 43-47. 3. L. L. Jackson: Getting our bearings in high school work, p. 57-62. 4. A. E. Winship: A series of projects that developed a community, p. 68-72.

1196. **North Carolina teachers' assembly.** Proceedings and addresses of the thirty-seventh annual session . . . at Asheville, November 24-26, 1920. Raleigh, Mitchell printing company, 1921. 84 p. 8°. (A. T. Allen, secretary, Raleigh, N. C.)

Contains: 1. Edwin Mims: The new challenge to teachers of America, p. 28-33. 2. Nellie Walker: Modern practices in our primary grades, p. 41-45. 3. Jamie Bryan: Motivated study periods in the primary grades, p. 45-49. 4. L. A. Williams: Standard tests, their application, and benefits derived from their use, p. 51-54.

1197. **Texas state teachers' association.** Proceedings of the forty-second annual meeting, Fort Worth, November 25, 26, 27, 1920. Texas outlook, 5: 1-47, July 1921. (R. T. Ellis, secretary, Fort Worth, Texas.)

Contains: 1. F. L. McVey: Education as a foundation for national development, p. 9-10. 2. T. H. Harris: How to secure an ample and competent supply of teachers, p. 16-19. 3. B. R. Payne: How to educate an adequate supply of teachers for the school, p. 19-21. 4. J. G. McNary: Address (Education from the viewpoint of a business man), p. 23-27.

1198. **West Virginia education association.** Annual proceedings, Parkersburg, West Va., November 4-6, 1920. 84 p. 8°. (S. E. A. Bulletin, vol. II, no. 1.) (W. W. Trent, secretary, Elkins, West Va.)

Contains: 1. Virginia Foulk: Democracy in education, p. 26-35. 2. E. A. Lee: Problems in part-time education, p. 43-52. 3. H. R. Bonner: Meaning of vocational guidance, p. 63-69.

1199. **Wisconsin teachers' association.** Proceedings of the sixty-seventh annual session . . . held at Milwaukee, November 4 to 6, 1920. Madison, Wis., Democrat printing co., 1920. 378 p. 8°. (M. A. Bussewitz, secretary, Milwaukee, Wis.)

Contains: 1. P. P. Claxton: Salaries, p. 35-43. 2. J. J. Handley: Organized labor on education, p. 48-53. 3. Rachelle S. Yarros: Social hygiene in its relation to public health, p. 54-61. 4. E. A. Fitzpatrick: The Wisconsin educational situation, p. 75-86. 5. R. L. Lyman: Oral composition, p. 130-39. 6. V. A. C. Henmon: Intelligence tests and their uses, p. 139-43. 7. W. F. Faulkes: Relationship of manual arts to vocational education in Wisconsin, p. 156-61. 8. G. M. Phelan: A course in citizenship with records of accomplishments, p. 176-80. 9. W. A. McKeever: Some tense problems in moral education, p. 181-83. 10. M. Rusch: Harmony, natural tendencies, p. 191-200.

11. E. Fessenden: Value of play through games, p. 208-14. 12. A. T. Weaver: The content of a high school course in speech, p. 227-33. 13. Mary V. Rodigan: Dramatics in the high school, p. 235-41. 14. A. P. Minsart: Separate classes for boys and girls in chemistry, p. 251-56. 15. J. H. Finley: Teacher training, p. 267-73. 16. Harriet Leete: The preschool child, p. 290-94.

### EDUCATIONAL HISTORY AND BIOGRAPHY.

1200. **González, Luis Felipe.** Historia de la influencia extranjera en el desenvolvimiento educacional y científico de Costa Rica. San José de Costa Rica, 1921. xi, 320 p. plates. 8°

Among the nations which have influenced the development of education in Costa Rica, the author assigns a prominent place to the United States as represented by the Bureau of education and by numerous American educators.

1201. **Hurlbut, Jesse Lyman.** The story of Chautauqua. New York and London, G. P. Putnam's sons, 1921. xxv. 429 p. front. (port.) plates. 8°.

A history of the Chautauqua institution, founded nearly 50 years ago by Lewis Miller and John H. Vincent.

1202. **The Manuale scholarium, an original account of life in the mediaeval university; tr. from the Latin by Robert Francis Seybolt.** Cambridge, Harvard university press, 1921. 122 p. 12°.

Bibliography: p. 119-22.

1203. **Paulsen, Friedrich.** Geschichte des gelehrten unterrichts auf den deutschen schulen und universitäten vom ausgang des mittelalters bis zur gegenwart, mit besonderer rücksicht auf den klassischen unterricht. 3e. erweiterte auflage hrsg. und in einem anhang fortgesetzt von Rudolf Lehmann. Leipzig, Veit & comp., 1919; Berlin und Leipzig, Vereinigung wissenschaftlicher verleger, 1921. 2 v. 8°.

Anhang: Der gelehrte unterricht bis zum weltkrieg. 1892-1914. v. 2, p. 693-797.

### CURRENT EDUCATIONAL CONDITIONS.

#### GENERAL AND UNITED STATES.

1204. **Bellamy, Frances B. Martha Berry.** Good housekeeping, 73: 21-22, 109-14, October 1921. illus.

Description of "The Berry schools," Rome, Ga., and of the founder, "the woman who has built a million dollar plant on faith in God, love of humanity, and money that her enthusiasm won from others."

Summarized in American review of reviews, 64: 537-38, November 1921.

1205. **Collins, Joseph V.** Loss and gain in education. Education, 42: 69-76, October 1921.

Discusses the development of elementary education in the past 50 years, with especial emphasis on the curriculum. Points out defects in methods of teaching. Says that elementary education is "lopsided, superficial, unscientific, and imperfect to a degree."

1206. **Educational progress in Wisconsin; prepared under direction of Cecile White Flemming.** Issued by C. P. Cary, state superintendent. Biennial report, 1918-1920. Madison, Wis., State department of public instruction, 1921. xi, 252 p. graphs, tables. 8°.

This final report of Supt. Cary has been prepared in cooperation by the members of the staff of the state education department, who contribute monographs on various phases of progress.

1207. **Eliot, C. W.** Protection against ignorance. Chicago schools journal, 4: 1-5, September 1921.

Answers the question "How intelligently shall the efforts of the people be directed toward the satisfaction of their educational desires and needs?"

1208. **Ettinger, William L.** Present-day problems of the public schools. American review of reviews, 64: 382-84, October 1921.

A summary of public school problems as seen through the eyes of the superintendent of schools of New York City. Defends the schools from adverse criticisms.

1209. **Jones, O. Garfield.** Education and the future of the Filipinos. American review of reviews, 64: 405-14, October 1921.

Describes the remarkable advance of education in the Philippines under American rule. Discusses also the political future of the Islands. Illustrated.

1210. **Landsittel, F. C.** Survey of educational conditions in Fairfield county, Ohio. Pub. by Vernon M. Riegel, superintendent of public instruction as director of education, 1921. Columbus, O., The F. J. Heer printing co., 1921. 53 p. incl. tables. 8°.

1211. **McAndrew, William.** The belated revolution in the public schools. What the fathers of the country thought the schools should be, and how schoolmen at last are coming to agree with them. World's work, 43: 108-12, November 1921.

Holds that the purpose and output of the schools should conform to the national theory, viz., American citizens.

1212. **McDougall, William.** Is America safe for democracy? New York. C. Scribner's sons, 1921. viii, 218 p. plates, figs. 12°.

Six lectures given at the Lowell institute of Boston, under the title "Anthropology and history, or the influence of anthropologic constitution on the destinies of nations."

A study of racial conditions, especially in the United States, including cultural aspects.

1213. **Sears, J. B., ed.** The Arlington school survey; a report of a study of the school systems of Arlington and three adjacent rural districts of Sibley county, Minnesota. Minneapolis, The University of Minnesota, 1921. 58 p. graphs, tables, fold. map. 8°. (Bulletin of the University of Minnesota. General extension division. vol. 24, no. 28. August 10, 1921.)

The survey was made by J. B. Sears, director; assisted by F. E. Armstrong, Charles Boardman, E. C. Culbert, W. P. Dyer, Walter Gaumnitz, E. T. Jacobson, and S. B. Severson.

1214. **Yocum, A. Duncan.** The limitation of progressive education. School and home education, 41: 14-21. September 1921.

Reported from a talk before the Harvard teachers' association, April 30, 1921.

#### FOREIGN COUNTRIES.

1215. **Canada.** Dominion bureau of statistics. Education statistics branch. Historical statistical survey of education in Canada. Pub. by authority of the Right Hon. Sir George E. Foster, minister of trade and commerce. Ottawa, Thomas Mulvey, printer to the King's most excellent majesty, 1921. 120 p. graphs, tables, fold. chart. 8°.

A statistical view of education in Canada during the period 1901-1920.

1216. **Danton, George H.** Aspects of education in China. School and society, 14: 263-72, 296-304, October 8, 15, 1921.

Gives particular attention to characterizing the services of foreign educators and teachers in the Chinese educational system.

1217. **Kirkaldy, Adam W.** University college, Nottingham. Education, 42: 116-24. October 1921.

Descriptive of a college located at Nottingham, England, definitely organized to develop the higher interests—literary, artistic, and scientific.

1218. **Pahlow, Edwin W.** Oxford and Cambridge as seen by American soldier-students. *Scribner's magazine*, 70: 477-83, October 1921.

Writer was formerly dean of American soldier-students in British universities.

1219. **Pasvolsky, Leo.** Education under communism: the structure of soviet education. *Educational review*, 62: 210-23, October 1921.

A review of educational methods and administration in Russia.

1220. **Rogers, Mary E.** Education in Serbia. *Southern workman*, 50: 449-57, October 1921.

Describes among other things the school at Cacak, Central Serbia, which was started by the child welfare commission of the Serbian relief committee of America. Illustrated.

1221. **Rothmaler, A. de.** Les hautes-écoles de paysans au Danemark. *Revue pédagogique*, 79: 189-208, September 1921.

1222. **Špišák, Ferd.** L'enseignement tchécoslovaque: son passé et son avenir.—II. L'enseignement secondaire. *Revue internationale de l'enseignement*, 41: 316-22, September-October 1921.

To be continued.

### EDUCATIONAL THEORY AND PRACTICE.

1223. **Dugas, L.** Les idées de Guyau sur l'éducation. *Revue pédagogique*, 79: 175-88, September 1921.

1224. **Graff, Ellis U.** Essentials in education. Indianapolis, The Bobbs-Merrill company [1921] 5 p. l., 245 p. 12°.

The superintendent of schools in Indianapolis, Ind., offers a practical discussion of some fundamental principles and methods in public education in this book, which is based on the writer's own experience, with distinct recognition of current educational conditions.

1225. **Lotz, Ernst.** Lehrplanpolitik. Pädagogische erwägungen eines humanisten. *Monatschrift für höhere schulen* (Berlin) 20: 193-203, July-August 1921.

1226. **Townsend, H. G.** Education as criticism. *Philosophical review*, 30: 367-79, July 1921.

1227. **Watson, Foster, ed.** The encyclopaedia and dictionary of education; a comprehensive, practical, and authoritative guide on all matters connected with education, including educational principles and practices, various types of teaching institutions, and educational systems throughout the world. In four volumes. Vol. 1-2. London, New York [etc.] Sir Isaac Pitman & sons, ltd., 1921. 2 v. plates, illus. 4°.

The completion of the second volume of this new Encyclopedia of education carries the work to the beginning of the letter M. More than 850 contributors, specialists in various lines of education, join in the preparation of the Encyclopedia, which will be useful for consultation on subjects relating to British education, to which it is mainly devoted. Considerable attention, however, is given to the educational institutions and methods of other countries than Great Britain. Among the American contributors to the work are Profs. E. P. Cubberley, John Dewey, C. H. Judd, and Paul Monroe.

1228. **Yeomans, Edward.** The educated person. *Atlantic monthly*, 128: 486-91, October 1921.

Says that educational processes should give heed to relationships, with the inorganic as well as the organic world, and should produce people who are on the way to appraise life fairly, who will know the difference between first class and second class—that is, have a proper scale of values.



## EDUCATIONAL PSYCHOLOGY; CHILD STUDY.

1229. **Kitson, Harry D.** How to use your mind; a psychology of study. Being a manual for the use of students and teachers in the administration of supervised study. 2d ed., rev. and enl. Philadelphia and London, J. B. Lippincott company [1921] 253 p. 12°.

Tells how to approach intellectual work and how to carry it through.

1230. **Limentani, Ludovico.** L'educazione pratica della volontà. *Rivista pedagogica* (Rome) 14: 232-49, May-June 1921.

To be continued.

1231. **Peaks, Archibald G.** Periodic variations in efficiency, as shown in mental and physical tests together with some weather effects. Baltimore, Warwick & York, Inc., 1921. 95 p. tables. 12°. (Educational psychology monographs, no. 23.)

An investigation of periodic variations in both physical and mental activities during the year, during the day, and in conjunction with periodic changes in natural phenomena such as sunlight and temperature. Gives a history of experiments in this field, and presents results both from other investigators and from the writer's own original researches.

1232. **Pyle, William Henry.** The psychology of learning; an advance text in educational psychology. Baltimore. Warwick & York, Inc., 1921. 308 p. graphs, tables. 12°.

Bibliography: p 294-303.

This book undertakes to state everything that is known about learning. All the experimental work that throws any light on the nature of learning has been carefully examined, and in the light of the experimental results, the author endeavors to give the present impartial verdict of educational psychology. The experimental method for teaching the subject is recommended.

## EDUCATIONAL TESTS AND MEASUREMENTS.

(Including Psychological Tests.)

1233. **National association of directors of educational research.** Papers presented at meeting at Atlantic City, N. J., March 3, 1921. *Journal of educational research*, 4: 1-55, June 1921.

Contains: 1. W. S. Gray: Diagnostic and remedial steps in reading, p. 1-15. 2. G. M. Whipple: The national intelligence tests, p. 16-31. 3. E. J. Ashbaugh: The measurement of language—what is measured and its significance, p. 32-39. 4. I. J. Bright: The intelligence examination for high-school freshmen, p. 44-55.

1234. **Courtis, Stuart A.** Educational measurements in Detroit. Kindergarten and first grade, 6: 309-14, October 1921.

We need to keep accurate records of all the temperaments, tastes, and peculiarities of children. Intelligence tests are a first step in sorting children.

1235. **Fordyce, Charles.** Intelligence tests in classifying children in the elementary school. *Journal of educational research*, 4: 40-43, June 1921.

A study of the results of the Haggerty intelligence examination in comparison with the school grades and estimates of teachers in the case of a group of pupils in the elementary grades at Lincoln, Neb.

1236. **Gates, Arthur I.** An experimental and statistical study of reading and reading tests. *Journal of educational psychology*, 12: 303-14, 378-91, 445-64, September, October, November 1921.

1237. **Hayes, Seth.** Cooperative chemistry tests. *Journal of educational research*, 4: 109-20, September 1921.

Work of the chemistry teachers of Cleveland, Ohio. The tests are intended to be "rapid-fire, and to call forth quick and accurate thinking by the pupils." Directions are given for conducting the tests.

1238. **Merrill, Maud A.** The relation of intelligence to ability in the "three R's" in the case of retarded children. *Pedagogical seminary*, 28: 249-74, September 1921.

A record of group tests made in the Oakland, Calif., public schools.

1239. **Otis, Arthur S. and Knollin, Herbert E.** The reliability of the Binet scale and of pedagogical scales. *Journal of educational research*, 4: 121-42, September 1921.

1240. **Proctor, William Martin.** The use of psychological tests in the educational and vocational guidance of high school pupils. Bloomington, Ill., Public school publishing company, 1921. 70 p. graphs, tables. 8°. (Journal of educational research monographs. no. 1, June 1921)

1241. **St. Denis, R. de.** Colleges and psychological tests. *America*, 26: 5-6, October 22, 1921.

Writer says that any reliable test must include the following elements: character analysis, memory capacity, intellectual attainments and physical aptitude, mental and physical reactions; in short all the things that make up a man's mental and physical abilities and habits. Judged by this standard, practically all tests in present use are more or less defective.

1242. **Terman, Lewis M.** Mental growth and the I. Q. *Journal of educational psychology*, 12: 325-41, 401-7, September, October 1921.

1243. **Thorndike, Edward L.** On the new plan of admitting students at Columbia university. *Journal of educational research*, 4: 95-101, September 1921.

Discusses the merits of the psychological examination of students. The writer says that such examination alone would not be a fully satisfactory means of selecting students, but is supplemented by the students' complete previous records. With a few exceptions the higher a student's score in the psychological examination, the better was his record in college.

1244. **Virginia. Education commission.** Virginia public schools; a survey of a Southern state public school system. Part two—Educational tests. Yonkers-on-Hudson, N. Y., World book company, 1921. xii, 235 p. graphs, tables. 12°. (Educational survey series)

Starting with the principle that reading, writing, and arithmetic remain through all the changing conceptions of education the fundamental aims of instruction in the elementary school, the Division of tests of the Virginia school survey staff, under the direction of Dr. M. E. Haggerty, has measured the work of the public schools of the state in these branches, and also in spelling. Tests of high-school composition and elementary algebra were also made in 25 representative high schools in various parts of Virginia. The results of these measurements by standard tests, as given in detail with tables and graphs in this volume, afford norms for some well-known tests in terms of typically Southern conditions.

## SPECIAL METHODS OF INSTRUCTION.

### PROJECT METHOD.

1245. **Dangers and difficulties of the project method and how to overcome them—**a symposium. By Profs. Kilpatrick, Bagley, Bonser, Hoscic, and Mr. Hatch, of Teachers college. *Teachers college record*, 22: 283-321, September 1921.

**CONTENTS.**—I. Introductory statement: definition of terms, W. H. Kilpatrick.—II. Projects and purposes in teaching and in learning, W. C. Bagley.—III. Dangers and difficulties of the project method, F. G. Bonser.—IV. The project method, J. F. Hoscic.—V. Student reactions to the project method, R. W. Hatch.—VI. A review and summary, W. H. Kilpatrick.

1246. **Warren, Minetta L.** The project method. *Journal of education*, 94: 176-177, September 1, 1921.

The beginning of a series of articles on the project method which are to continue in following issues of this journal.

#### OTHER METHODS.

1247. **Wolstencroft, H. P.** The Dalton plan; a record of a year's experience in an English school. *Educational times (London)* n. s. 3: 461-62, October 1921.

Says that the plan has the advantage of being applicable to any curriculum. and that it has resulted in better work, greater progress, increased interest, fuller scope, and the growth of self-reliance and a feeling of responsibility, among the pupils.

#### SPECIAL SUBJECTS OF CURRICULUM.

##### READING.

1248. **Parker, Samuel C.** How to teach beginning reading. *Elementary school journal*, 22: 15-30, 104-17, September, October 1921.

The first of this series of articles includes a presentation of the scientific principles and evidence which justify the methods and devices for teaching beginning reading. The second article discusses pre-primer blackboard and chart reading; beginning book reading, etc. To be continued.

1249. **Wilson, Estaline.** Specific teaching of silent reading. *Elementary school journal*, 22: 140-46, October 1921.

Describes a series of tests in the schools of Cincinnati, Ohio, in which a number of different kinds of material were presented, including arithmetic, geography, civics, grammar, narrative material, and poetry.

##### SPELLING.

1250. **Pittman, Marvin Summers and Pryor, Hugh Clark.** A guide to the teaching of spelling. New York, The Macmillan company, 1921. xi, 141 p. 12°.

This manual summarizes and interprets in plain language current literature on the teaching of spelling and the results of recent experiments in the subject. It discusses the fundamental psychological principles involved in the teaching of spelling, reviews the best methods, and considers various types of spelling textbooks now in use, and various special lists of words.

##### ENGLISH AND COMPOSITION.

1251. **Clapp, John Mantle.** The "better speech movement" and the world of business. *English journal*, 10: 450-55, October 1921.

1252. **Deming, Alhambra G.** Methods and material for composition in intermediate and grammar grades. Chicago, Beckley-Cardy company, 1921. 232 p. 12°.

A handbook for teachers designed to cover with its suggestions the entire composition work of the intermediate and grammar grades, and to afford original methods and a variety of material to supplement a regular textbook.

1253. **Savage, Howard J.** Personnel for college composition. *English journal*, 10: 439-49, October 1921.

Remarks on the personnel of college teachers of English composition.

1254. **Thorndike, Edward L.** Word knowledge in the elementary school. *Teachers college record*, 22: 334-70, September 1921.

Gives counts of the frequency of occurrence of words in the material which the pupil or graduate will or should read. Describes the "Teacher's word book."

## LITERATURE.

1255. **Kellogg, Annie F.** Golden numbers: an experiment in teaching love of poetry to high-school pupils. *English journal*, 10: 367-75, September 1921.

## ANCIENT CLASSICS.

1256. **Carr, W. L. and Gray, Mason D.** The classical survey. *Classical journal*, 17: 16-27, October 1921.

The object of the survey was to prepare a constructive program of recommendations for improvement in the teaching of Latin and Greek in the secondary schools of the United States. A revised form of a report that was originally submitted to the advisory committee and the chairman of the regional committees of the American classical league, at a meeting held in Philadelphia, July 6, 1921.

1257. The classics in education. *Journal of education and School world* (London) 53: 575-77, September 1921.

Report of the committee appointed by the prime minister to inquire into the position of classics in the educational system of the United Kingdom.

1258. **Coolidge, Calvin.** Value of the classics. *Classical journal*, 17: 28-35, October 1921.

Also in *American education*, 25: 12-16, September 1921.

A defense of the classics, delivered before the American classical league in Philadelphia, July 7, 1921.

1259. **Weldon, J. E. C.** The future of the classics. *Contemporary review*, 120: 313-21, September 1921.

Based on the report of the committee which was appointed by the British prime minister in November, 1919, "to inquire into the position to be assigned to the classics (*i. e.*, to the language, literature, and history of ancient Greece and Rome) in the educational system of the United Kingdom, and to advise as to the means by which the proper study of these subjects may be maintained and improved."

## MODERN LANGUAGES.

1260. **Davies, Gwendoline.** Modern languages in the United States. *Modern languages* (London) 3: 11-15, October 1921.

The impressions of a British teacher visiting in America, regarding modern language teaching in the United States.

1261. **Franzén, Carl G. F.** Foreign language teaching in the high schools of Iowa. *School review*, 29: 610-16, October 1921.

In Iowa during the school year 1920-21, there were four foreign languages taught—Latin, French, Spanish, and Norse. Latin is very popular, with French second.

1262. **Gourio, E.** The direct method of teaching French. Boston, New York [etc.] Houghton Mifflin company [1921] 163 [1] p. 12°.

## SCIENCE AND MATHEMATICS.

1263. **Glenn, Earl R.** The improvement of chemistry and physics instruction in American high schools. *School science and mathematics*, 21: 671-73, October 1921.

Given at the University of Pennsylvania, April 7, 1921, during Schoolmen's week.

1264. **Williams, Lewis W.** The mathematics needed in freshman chemistry. *School science and mathematics*, 21: 654-65, October 1921.

## GEOGRAPHY.

1265. **Adams, William C.** Practical methods for teaching elementary geography. New York, Philadelphia [etc.] Hinds, Hayden & Eldredge, inc. [1921] 135 p. 16°.

1266. **Atwood, Wallace W. and Thomas, Helen Goss.** Teaching the new geography; a manual for use with the Frye-Atwood geographical series. Boston, New York [etc.] Ginn and company [1921] 203 p. 10°.
1267. **Brigham, Albert Perry and McFarlane, Charles T.** Essentials of geography; a manual for teachers. New York, Cincinnati, [etc.] American book company [1921] 198 p. front. illus. 16°.
1268. **Cooper, C. E.** Status of geography in the normal schools of the eastern states. *Journal of geography*, 20: 217-224, September 1921.  
Survey of the status of geography in normal schools.
1269. **Smith, E. Ehrlich.** Teaching geography by problems. Garden City, N. Y., and Toronto, Doubleday, Page & company, 1921. xix, 306 p. front., plates. 12°.  
Presents the modern principles involved in teaching geography by problems and projects, and concrete examples of teaching the subject according to these principles. The volume also gives lists of reference books and other helpful material which in teaching geography by the project method are required to supplement the school text.

## HISTORY.

1270. **Gabriel, Ralph H.** The general course in United States history and the liberal arts college. *Historical outlook*, 12: 237-39, October 1921.
1271. **Selby, E. M.** A teacher's observation of practice-teaching in history. *Ohio history teachers' Journal*, Bulletin no. 22, May 1921, p. 251-55.  
The conclusions are based on experiences of the writer as a student in the College of education of the Ohio State university.

## DRAMATICS.

1272. **Colby, Gertrude K.** The conflict, a health masque in pantomime. With an introduction by Thomas D. Wood. New York, A. S. Barnes and company, 1921. 70 p. front., plates, diags. 8°.
1273. **Taft, Linwood.** The technique of pageantry. New York, A. S. Barnes and company, 1921. viii, 168 p. front. 8°.  
Regarding pageantry as the most appropriate medium of expression of a specific phase of community life, the author, who has had large experience in directing pageants, offers this volume as an aid to communities which may wish to celebrate anniversaries seeming to them memorable. Part I gives a general discussion of the technique of pageantry, and Part II contains specimen programmes of several particular pageants.

## SAFETY.

1274. **Oregon. Department of education.** Course of study for safety education in Oregon schools. Issued by J. A. Churchill, superintendent of public instruction for Oregon. Salem, Or., State printing department, 1920. 62 p. illus. 8°.

## KINDERGARTEN AND PRIMARY SCHOOL.

1275. **Mitchell, Lucy Sprague.** Here and now story book, two- to seven-year-olds. Experimental stories written for the children of the City and country school (formerly the Play school) and the Nursery school of the Bureau of educational experiments. New York, E. P. Dutton & company [1921] xii, 360 p. illus. 12°.  
Mrs. Mitchell explains the plan of this book in the Introduction, p. 1-72. The stories given in the following pages are fashioned on the model of stories actually told by children themselves about their own doings and every-day experiences. The writer regards the modern stories which adults write for young children as unsuitable for the purpose intended.

## RURAL LIFE AND CULTURE.

1276. **American country life association.** Rural organization. Proceedings of the third National country life conference, Springfield, Mass., 1920. [Chicago, Ill.] Pub. by the University of Chicago press for the American country life association [1921] 242 p. front. 8°. (C. J. Galpin, executive secretary, Washington, D. C.)

Contains: 1. K. L. Butterfield: President's address—The past and the future of the country life movement, p. 1-8. 2. Lorado Taft: An American rural art movement, p. 9-22. 3. E. R. Groves: Rural organization and rural psychology, p. 56-65. 4. Dwight Sanderson: Some fundamentals of rural community organization, p. 66-77. 5. Mabel Carney: Rural community organization, p. 82-85. Discussion, p. 85-88. 6. H. P. Douglas: Recent legislation facilitating rural community organization, p. 117-26. Discussion, p. 127-32. 7. Mabel Carney: Local, state, and federal organization for effective rural education, p. 133-41. 8. J. D. Wolcott: Organization for rural library extension and for education through the library, p. 142-46. 9. C. J. Galpin: The physical aspects of the American farm home, p. 155-60. 10. W. H. Wilson: Report of the committee on morals and religion, p. 169-76. 11. W. J. Campbell: Report of committee on training for rural leadership, p. 187-92. Discussion, p. 192-94. 12. E. C. Lindeman: Organization for rural recreation, p. 201-7.

1277. **Burr, Walter.** Rural organization. New York, The Macmillan company, 1921. x, 250 p. 12°.

A practical discussion of rural organization, containing suggestions along the lines of farm production, marketing, securing supplies, finance and accounting, communication and transportation. The book also takes up the social functions, education, sanitation, recreation, and home making.

## RURAL EDUCATION.

1278. **Collings, P. McB.** The reconstruction of elementary rural school aims. Missouri school journal, 38: 326-33, September 1921.

A scientific method for determining particularized elementary rural school outcomes.

1279. **Louisiana. Department of education.** Course of study for rural and elementary schools. Prepared by the division of rural and elementary schools. Pub. by the state department of education, T. H. Harris, state superintendent. Baton Rouge, La., Ramires-Jones printing co., 1921. 239 p. 8°.

1280. **Pittman, Marvin Summers.** The value of school supervision demonstrated with the zone plan in rural schools. Baltimore, Warwick & York, inc., 1921. x, 129 p. 12°.

Gives the results of a test of the value of supervision made in the rural schools of Brown county, South Dakota, and describes the zone plan of supervision, which was employed.

1281. **Rapeer, L. W.** Play in the new rural education. American education, 25: 17-22, September 1921.

A plea for improved play provisions in rural schools.

1282. **Smith, R. B.** The future country school. Education, 42: 111-15, October 1921.

The impressions of a layman, a college graduate and farmer, who has children attending a country school.

1283. **Vermont. Board of education.** The state course of study of Vermont. Pt. 1 for rural and elementary schools. Prepared under direction of Clarence H. Dempsey, commissioner of education. Authorized by the state board of education. Montpelier, Vermont, 1921. 324 p. 8°.

## SECONDARY EDUCATION.

1284. **High school teachers association of New York city.** The high schools of New York city; a handbook of procedure and personnel. Clyde R. Jeffords and Claude F. Walker, editors. New York, 1921. 223 p. 8°.

This book is a general manual of the public high schools of the greatest city of the country, giving a rather full account of their origin and development, their curriculum, the present trend of high school teaching, and the professional status and compensation of high school teachers. It includes also a directory of the schools and their teachers.

1285. **Hollister, H. A.** Report of the high school visitor, University of Illinois, for the year 1920-21. Urbana, The University of Illinois, 1921. 68 p. charts, tables. 8°. (University of Illinois bulletin, vol. 18, no. 33. April 18, 1921.)

Contains: 1. The financial side of the teaching profession—a study of the salaries of high school teachers in 370 accredited public high schools in Illinois, p. 6-21. 2. The influence of the sex balance of the teaching staff on the ratio of boys to the total number of pupils enrolled in public high schools in Illinois, p. 22-27. 3. List of accredited schools and tabular report, p. 30-60.

1286. **Ivy, H. M.** High schools. Issued by W. F. Bond, state superintendent of education. [n. p. 1921] 128 p. 8°. (Mississippi. Department of education. Bulletin no. 23, 1921)

1287. **Lyman, B. L.** The junior high schools of Montclair, New Jersey. School review, 29: 495-509, September 1921.

Discusses the activities of various classrooms; instructional ideals; the curriculum; student control and discipline, etc.

1288. **Ohio. Department of education.** Ohio high school standards (junior and senior) A manual of suggestions for the high school teachers of the state with requirements for the organization and administration of the recognized high schools. Prepared by Walton B. Bliss . . . under the direction of Vernon M. Regel. Columbus, Ohio, The F. J. Heer printing co., 1921. 120 p. 8°.

## TEACHER TRAINING.

1289. **Fischer, Aloys.** Über das studium der pädagogik an den hochschulen. Zeitschrift für pädagogische psychologie und experimentelle pädagogik (Leipzig) 22: 273-89, September-October 1921.

1290. **Hertzog, Walter Scott.** State maintenance for teachers in training. Baltimore, Warwick & York, Inc., 1921. 144 p. tables, diagrs. 12°.

With reference to the problem of an adequate supply of trained teachers for the public schools, this study examines the subject of State encouragement of prospective teachers. It surveys the conditions which may justify additional aid for prospective teachers, and describes plans for recruiting the profession through financial assistance which are now in operation in the United States and in various foreign countries. Methods of recruiting other professions and occupations through financial assistance are also presented for comparison with teaching, and the advantages and disadvantages of subsidies for teacher training are discussed.

## TEACHERS' SALARIES AND PROFESSIONAL STATUS.

1291. **Blackwell, C. P. and Crandall, W. G.** Professional improvement of college teachers. Educational administration and supervision, 7: 388-400, October 1921.

The resulting information from letters sent out to colleges and universities and to educators asking for statements concerning the methods of professional improvement now in use in the institutions and for the personal opinions of the educators.

1292. **Byrne, Lee.** A method of equalizing the rating of teachers. *Journal of educational research*, 4: 102-8, September 1921.

Gives an illustration of the method of reducing crude ratings to uniformity of level and dispersion, etc.

1293. **Courtis, Stuart A.** Standards of teaching ability. *Educational review*, 62: 183-86, October 1921.

Writer says that a whole new field of research must be explored before final standards of teaching ability are possible. Emphasizes the necessity of formulating a definition of teaching ability wholly in terms of the changes to be produced in children.

1294. An educational program. *Survey*, 47: 57, October 8, 1921.

Program of work for the current school year of the Teachers' union of New York city.

1295. **Kirkpatrick, J. E.** The professor on behalf of his profession. *New republic*, 28: 68-70, September 14, 1921.

1296. **Massachusetts. Department of education. Division of elementary and secondary education and normal schools.** . . . Salaries of teachers in the public day schools of Massachusetts, 1921. Boston, 1921. 24 p. incl. tables. 8°. (Massachusetts. Bulletin of the department of education, 1921, no. 4. Whole no. 124.)

1297. **Sears, J. B.** The measurement of teaching efficiency. *Journal of educational research*, 4: 81-94, September 1921.

Presents a history of teacher-rating schemes. Outlines the requirements for an effective teacher measurement. Gives a bibliography: p. 92-94.

### HIGHER EDUCATION.

1298. **Andrews, M. B.** How to work your way through college. Greensboro, North Carolina, 1921. 63 [1] p. 8°.

1299. **Butler, Nicholas Murray.** Scholarship and service: the policies and ideals of a national university in a modern democracy. New York, C. Scribner's sons, 1921. xii, 399 p. 12°.

This volume is made up of selections from the addresses and reports of the president of Columbia university. The papers included endeavor to interpret the modern university in terms of its ideals, of its problems, and of its counsels. Principles are established which are of general application to all modern universities functioning in democracies.

1300. **Coffman, L. D.** What part shall the colleges and universities play in the American program of education? *School and home education*, 41: 1-5, September 1921.

Address given before the National education association, Des Moines, Iowa, July 6, 1921.

1301. **Dawson, W. H., ed.** The yearbook of the universities of the empire, 1921. London, G. Bell and sons, ltd., 1921. xiv, 571 p. 12°.

1302. **Donnelly, Francis P.** Unity of education. *America*, 25: 560-62, October 1, 1921.

Discusses the attainment of unity in college education, with particular reference to electivism and the departmental system.

1303. **Kehr, Marguerite Witmer.** A comparative study of the curricula for men and women in the colleges and universities of the United States. [n. p., 1920] 25 [1] p. 12°.

Thesis (Ph. D.)—Cornell University.

Reprinted from the *Journal of the Association of collegiate alumnae*, vol. XIV, no. 3, December 1920.



1304. **Koos, Leonard V.** Current conceptions of the special purposes of the junior college. *School review*, 29: 520-29, September 1921.  
 A survey of the current ideas of the special functions of the junior college.
1305. ———. Junior-college courses in 1920-21. *School review*, 29: 586-92, 668-78, October, November 1921.  
 The sources of the data used in this study were the bulletins or catalogs of junior colleges. Part I sets forth the general curricular situation and the prescribed work. Part II gives the offerings by subject-groups and courses.
1306. **Lloyd, Alfred H.** Fellowships and their relation to teaching. *Educational review*, 62: 197-209, October 1921.  
 Defines a fellowship at an American university under these aspects: Physical, intellectual, and moral. "At any of our graduate schools," says the writer, "a fellowship should mean complete freedom, as well as distinct ability, of mind."
1307. **McConn, Max.** Bachelor of arts: what is it? *New republic*, 28: 154-56, October 5, 1921.  
 Criticizes grades, credits, and degrees. Speaks of them as "elusive entities," and advocates the elimination of the whole mechanism.
1308. **Scott, Samuel M.** A possible remedy. *Harvard graduates' magazine*, 30: 24-32, September 1921.  
 A discussion of the elective system of Harvard university.
1309. **Wood, B. D.** The measurement of college work. *Educational administration and supervision*, 7: 301-334, September 1921.  
 A report on the preparation and study of a new type of examination.

### SCHOOL ADMINISTRATION.

1310. **Ettinger, William L.** Economy in school administration. [New York, The printing class, The boys of the Vocational school, 1921] 29 p. 16°.  
 Annual address of the superintendent of schools, city of New York, before the associate superintendents, district superintendents, directors and inspectors of special branches, September 13, 1921.  
 Also in *Bulletin of high points in the work of the high schools of New York*, September 1921, p. 3-8.
1311. **Hart, Joseph K.** Decentralization in education. *Survey*, 47: 53-55, October 8, 1921.  
 Declares that the foundations of a decentralized educational system will be the various local communities of the state. Discusses the developments in Wisconsin.
1312. **Learned, Henry Barrett.** The educational function of the national government. *American political science review*, 15: 335-49, August 1921.
1313. **MacDonald, D. J.** Democracy in school administration—Some fundamental principles. *American school board journal*, 63: 31-33, 119, September 1921.  
 A good definition of democracy and an enumeration of those principles which must be operative before democracy can prevail in school administration circles.
1314. **National committee for chamber of commerce cooperation with the public schools.** Know and help your schools. Third report. An interpretation of inquiry no. III relating to boards of education and the receipts and expenditures of urban public schools. Directed by The National committee for chamber of commerce cooperation with the public schools and the American city bureau. New York, Chicago, [etc.] American city bureau. 1921. 47 p. 8°.

1315. Should boards of education be independent of the city government? American city, 25: 307-8, October 1921.

Says that "the best interests of the public schools can not be served in a city where the budget of the board of education may be reduced and re-modeled by city officials who have not made a definite study of the needs of the schools."

From "Know and help your school," the report of a survey directed by the National committee for chamber of commerce cooperation with the public schools, and the American city bureau.

1316. **Swift, Fletcher H.** The declining importance of state funds in public-school finance. School review, 29: 534-46, September 1921.

Writer says that after 50 years of support by local taxation, the country finds itself in an educational situation marked by economic and educational inequalities. Suggests a possible modification, perhaps a complete reversal of our traditional plan of school support. Gives tables of statistics.

### SCHOOL MANAGEMENT.

1317. **Campbell, Arthur L.** Keeping the score. School review, 29: 510-20, September 1921.

Recommends the introduction of an open system, with the modern duplicating feature, such as is used in salesbooks, bank deposit books, and other similar business devices. Gives specimen of a school score card, which has been used with success by the writer.

1318. **Maxwell, C. B.** The selection of textbooks. Boston, New York [etc.] Houghton Mifflin company [1921] x, 139 p. 12°. (Riverside educational monographs, ed. by H. Suzzallo)

CONTENTS.—I. The textbook a necessary tool in teaching.—II. The common basis for selection of texts.—III. Current methods of selecting textbooks.—IV. Method and term of adoption as a factor.—V. Free textbooks versus individual ownership.—VI. Justifiable standards for selection.—VII. Outline aids for judging all texts.—VIII. Special outlines for evaluating texts in different subjects.

1319. **Stockton, James L., and others.** Criteria for the regrading of schools. Elementary school journal, 22: 55-66, September 1921.

Results of problem-project methods, etc. The authors have carried out an extended program of standard testing in the training school of the San Jose state normal school, California, and present the results of their studies.

### SCHOOL BUILDINGS AND GROUNDS.

1320. **Hallett, E. S.** The relative merits of heating systems. American school board journal, 63: 43-45, September 1921.

### SCHOOL HYGIENE AND SANITATION.

1321. **American child hygiene association.** Transactions of the 11th annual meeting, St. Louis, Mo., October 11-13, 1920. Baltimore, Press of Franklin printing company, 1921. 440 p. 8°. (Headquarters of the association: 1211 Cathedral street, Baltimore, Md.)

Contains: 1. Herbert Hoover: A program for American children, p. 23-23. 2. Papers and discussion on Pre-school age and School age and adolescence, p. 97-178.

1322. **Brown, Maud A.** Health program in the Kansas City schools. 1919-21. Elementary school journal, 22: 132-39, October 1921.

Describes a health service for grade children, which is simple enough "to be carried on by the teacher without the help of physician or nurse," etc., now in operation in the Kansas City, Mo., public schools.

1323. **Clark, Taliaferro.** School health supervision in Minneapolis, Minn. Public health reports (U. S. Public health service) 36:1902-36, August 12, 1921.
1324. **Dickson, Frank D.** Effect of posture on the health of the child. Journal of the American medical association, 77:760-64, September 3, 1921.  
Describe the results of bad posture; the treatment by diet and general care; and the correction of deformity, etc. Illustrated.
1325. **Fones, Alfred C.** Seven years of mouth hygiene in the Bridgeport schools. Dental cosmos, 63:1000-4, October 1921.  
Work in the Bridgeport, Conn., public schools described.
1326. **Harris, Louis I.** Minimum health and sanitation standards in schools. An address delivered before the Teachers union of the city of New York. New York, The Teachers union of the city of New York, 1921. 16 p. 8°. (A survey of the schools by teachers, 1921, no. 1.)  
Also in the Nation's health, 3:477-79, 582-86, August, October 1921.
1327. **Hoefer, Carolyn.** Increasing the efficiency of health instruction in the public schools. Elementary school journal, 22:31-43, September 1921.  
Says that the most objective method of measuring the result of health teaching is the regular weighing and measuring of the children. Studies the material and methods for effective health principles. Gives bibliography.
1328. **Howe, William A.** School health service in New York state. American journal of public health, 11:873-87, October 1921.  
Presents some interesting statistics of conditions in New York state.
1329. **Iowa. University. Extension division.** . . . The school lunch. Iowa City, The University [1921] [27] p. illus. 8°. (Extension division bulletin no. 70. O. E. Klingaman, M. A., editor.)
1330. **Spencer, B. R.** Mental health maintenance emphasized. Nation's health, 3:540-42, October 1921.  
Discusses the training of the emotions; emotion as motive power, etc. Says that mental hygiene considers fully the behavioristic significance of mental attitudes.
1331. **Veeder, Borden S.** The rôle of fatigue in the malnutrition of children. Journal of the American medical association, 77:758-60, September 3, 1921.
1332. **Zingher, Abraham.** Diphtheria prevention work in the public schools of New York city. Journal of the American medical association, 77:835-41, September 10, 1921.  
Describes the results of Schick test and toxin-antitoxin immunization. The Schick test and the control test were applied to more than 52,000 school children in 44 public schools in the boroughs of Manhattan and the Bronx.

### SEX HYGIENE.

1333. **Edson, Newell W.** Some facts regarding sex instruction in the high schools of the United States. School review, 29:593-602, October 1921.  
Says that among the various States there is no uniformity in the ratio of schools giving sex education to those not giving it. The West has progressed further in developing sex education than have other sections of the country.
1334. **Galloway, T. W.** The father and his boy; the place of sex in manhood making. New York, Association press, 1921. xl. 99p. 16°.

## PHYSICAL TRAINING.

1335. Lowman, C. L. Present day problems in physical education. Mind and body, 28: 705-12, September-October, 1921.

The author claims that seventy-five to eighty-five per cent of all our school children have some physical defect.

1336. New York (State) University. General plan and syllabus for physical training in the elementary and secondary schools of the state of New York, as adopted by the board of regents of the University of the state of New York upon the report and recommendation of the military training commission of the state of New York. . . Albany, The University of the state of New York, 1921. 3v. plates. 8°. (Bulletin nos. 721-723)

Contents: Bk. 1.—Rural and ungraded schools. Bk. 2.—Elementary schools. Bk. 3.—Secondary schools.

1337. Taylor, Everett B. Physical development of midshipmen. Nation's health, 3: 527-32, September 1921.

Physical education at the U. S. Naval academy. Illustrated.

## PLAY AND RECREATION.

1338. Patrick, G. T. W. The play of a nation. Scientific monthly, 18: 350-62, October 1921.

The physiological and psychological aspects of play described. Social effects of certain amusements. Says that the true approach to healthful and harmonizing recreations for the nations is through the public schools.

## SOCIAL ASPECTS OF EDUCATION.

1339. Dyer, Helen J. The socialized recitation from the point of view of a grade teacher. Elementary school journal, 22: 49-54, September 1921.

The writer describes her work in the schools of Springdale, Pa. Says that the plan develops honor and dependability on the part of the pupils.

1340. Hendricks, Genevieve Poyneer, comp. Handbook of social resources of the United States. Washington, D. C., The American Red Cross, 1921. lxxi, 300 p. 8°.

1341. Moore, Harry H. Our complex civilization and the genius of its youth. School review, 29: 617-27, October 1921.

Says that the impasse confronting society to-day is to a great extent due to a lack of intelligence. Advocates courses in sociology and economics in high schools as a solvent to radicalism, etc.

1342. National association of visiting teachers. The visiting teacher in the United States; a survey by the National association of visiting teachers and Home and school visitors. New York city, The Public education association of the city of New York, 1921. 64 p. 12°.

CONTENTS.—Introduction.—Forward.—How visiting teacher work originated and developed.—The place of the visiting teacher in the school system.—How the visiting teacher goes about her work.—Why children are referred to the visiting teacher.—How the visiting teacher analyzes and solves her problems.—What qualifications are essential for visiting teacher work.—What are the fundamental characteristics and the prospects of the work.

1343. Pound, Arthur. The iron man. Atlantic monthly, 128: 433-41, October 1921.

Writer is a resident of Flint, Mich., a manufacturing center for automobiles. This article gives the results of his study of the reactions of automatic machinery upon social relationships as regards factory workers. He shows that in a town dominated by automatic machinery, the educational problem is to train youth for the right use of leisure.

1344. **Williams, Joseph T.** Education in recent sociology. *Education*, 42: 77-89, October 1921.

Part 5 of a series of articles. Discusses education as set forth in the "Principles of sociology," by Prof. Edward A. Ross.

### CHILD WELFARE.

1345. **Ball, Florence V.** Children and industry; a study of the child at work in Cleveland, Ohio. [Cleveland, 1921] 54 p. incl. tables. 8°.

Reprinted by permission from the report issued by the Hospital and health survey, Cleveland, Ohio, 1921.

1346. **Ensign, Forest Chester.** Compulsory school attendance and child labor; a study of the historical development of regulations compelling attendance and limiting the labor of children in a selected group of states. Iowa City, Iowa, The Athens press [1921] ix, 263 p. 8°.

After a preliminary examination of English, colonial, and early national antecedents for compulsory education and child labor legislation in America, this study takes up the history of the subject in Massachusetts, Connecticut, New York, Pennsylvania, and Wisconsin, followed by a summary and conclusion. The writer says that the child labor and education standards in these five States must not be regarded as typical for the United States as a whole, but rather as models toward which the remainder of the country is approaching.

### MORAL EDUCATION.

1347. **Cohen, Morris B.** Dante as a moral teacher. *New republic*, 28: 181-84, October 12, 1921.

1348. **Gould, Frederick J.** Moral education conference at Geneva. *Journal of education and school world* (London) 53: 637, 640, October 1, 1921.

Proceedings of a conference preliminary to an International moral education congress, to be held in Geneva in July or August 1922.

1349. **Otto, M. C.** The moral education of youth. *International journal of ethics*, 32: 52-67, October 1921.

Says that the important qualities of the moral personality may be developed in the regular course of school work, without formal instruction in ethics.

### RELIGIOUS AND CHURCH EDUCATION.

1350. **Fergusson, E. M.** The basis of Protestant Christian unity in religious education. *Religious education*, 16: 254-61, October 1921.

Paper read before the annual meeting of the Unitarian Sunday school society, May 1921.

1351. **Forrest, W. M.** Bible classes for high school pupils with credit towards graduation. Charlottesville, Va., The University, 1921. 17 p. 8°. (University of Virginia record. Extension series. vol. vii, no. 2, October 1921)

Writer is professor of biblical literature, University of Virginia, and official biblical examiner for the Virginia State board of education.

1352. **Hartley, Gertrude.** The use of projects in religious education. Philadelphia, Boston [etc.] The Judson press [1921] 91 p. plates. 12°.

1353. **Lowe, Frank M.** Religious vocations; a text-book for the church "class in occupations" and handbook of information for pastors, parents, teachers, and other counsellors of Christian youth. Boston, Chicago, United society of Christian endeavor [1921] 230 p. 12°.

1354. **McCormick, Patrick J.** Principles of educational reform. Catholic educational review, 19: 495-504, October 1921.

Paper read at the 18th annual convention of the Catholic educational association, held at Cincinnati, Ohio, July 1921.

1355. **Snowden, James H.** The meaning of education. New York, Cincinnati, The Abingdon press [1921] 122 p. 16°.
1356. **Vogt, Paul L.** Church cooperation in community life. New York, Cincinnati, The Abingdon press [1921] 171 p. 12°.

### MANUAL AND VOCATIONAL TRAINING.

1357. **Eastern arts association.** Proceedings, eleventh annual meeting, Boston, Mass., April 1, 2, and 3, 1920. 214 p. 8°. (M. W. Haynes, secretary, Bayonne, N. J.)

Contains: 1. R. O. Small: Vocational education, p. 15-23. 2. A. L. Barbour: Responsibility of the normal school in training teachers of drawing in relation to general education, p. 31-38. 3. Lucy H. Gillett: How can our work in foods be made more vital to the health of the child? p. 94-104. 4. O. D. Evans: Vocational guidance in the continuation school—"Helping the boy and girl to find themselves," p. 119-27. 5. Annie F. Slattery: The class in occupations as a correlative to work in the arts, p. 134-43. 6. C. D. Kingsley: The place of practical education in the modern high school, p. 143-52. 7. D. L. Hoopingarner: Social education and the labor problem, p. 168-74.

1358. **Cooperation between industry and the school.** National association of corporation training bulletin, 8: 447-67, October 1921.

The results of an inquiry made among the member-companies of the association for information about plans, systems, etc., used to provide the opportunity for students to form connections with business.

1359. **Edgerton, A. H.** Industrial-arts and prevocational education in our intermediate and junior-high schools. Industrial-arts magazine, 10: 365-71, October 1921.

The first of a series of four papers on industrial arts in junior high schools.

1360. **House, Julius T.** Two kinds of vocational education. American journal of sociology, 27: 222-25, September 1921.

Writer says there are two schools of thinkers who are interested in vocational education: "(a) Those who think in terms of the child and the job; (b) those who think in terms of the child and the social process." Analyzes and comments on these two attitudes.

1361. **Newman, C. T.** An experiment with a course in general technology. School review, 29: 603-9, October 1921.

Presents a course in (general technology) metal-working in the University high school of the University of Chicago. The method of presentation is by problematic question-lesson sheets. The pupil is "brought face to face with problems in much the same manner that problems will confront him in later life, when there may be no one to show him how to proceed."

1362. **Vaughn, S. J.** Organization and administration of part-time schools. Industrial-arts magazine, 10: 379-83, October 1921.

The organization of part-time schools should be completed before the opening of the school, and definite means taken to get the proper information to the public in general and to the employers for whom the pupils are working.

1363. **Vocational education association of the Middle West.** Report of Committee on teaching social science in high schools and industrial classes. [Chicago, Ill.] Pub. by the Vocational education association of the Middle West, 1921. 30 p. 8°. (Monographs on vocational education. 1921 series, no. 1.)

Members of committee: Ruth Mary Weeks, chairman; John R. Commons, Frank M. Leavitt.

## VOCATIONAL GUIDANCE.

1364. **Morelock, Oliver J.** The intermediate school and vocational guidance. Educational review, 62: 187-96, October 1921.

Emphasizes the value of the junior high school in the scheme of education. The so-called "intermediate school" will assure the further democratization of the public school system to meet the needs of all the children of the community.

## WORKERS' EDUCATION.

1365. **National conference on workers' education in the United States. 1st.** New York, 1921. Workers education in the United States; report of proceedings first National conference on workers' education in the United States. New York city, Workers' education bureau of America, 1921. 144 p. 8°. [Workers' education bureau series, no. 1.]

1366. **Allison, Brent D.** Labor education in Germany. Survey, 47: 55-57, October 8, 1921.

Describes among other things the establishment of the Academy of labor, which aims to become a labor university.

1367. **Budish, J. M.** Methods of mass education. Survey, 46: 678-79, September 16, 1921.

Says that the shop meeting is perhaps the best available means of promoting mass education.

1368. **Haldane, Richard Burdon, Viscount.** Education of the adult worker. Forum, 66: 282-87, October 1921.

Work in Great Britain described. Discusses education as a palliative of industrial unrest.

1369. **May, F. Stacy.** Workers' education at Amherst. Survey, 46: 675-76, September 16, 1921.

Describes the classes for workers in Springfield and Holyoke, Mass., conducted by Amherst College, in cooperation with local central labor unions.

## AGRICULTURE.

1370. **Hurley, M. E.** Agriculture for city schools. Elementary school journal, 22: 44-48, September 1921.

Describes in particular the work of the Allendale school in Oakland, California.

## HOME ECONOMICS.

1371. **Morgan, Agnes F.** A survey of the teaching of home economics in the public secondary schools of California. School review, 29: 574-85, October 1921.

The purpose of the study was to determine (a) the types of teachers giving instruction in home economics in these schools; and (b) the types and number of courses offered under this name.

## PROFESSIONAL EDUCATION.

## LAW.

1372. **Association of American law schools.** Handbook . . . and proceedings of the summer meeting held at St. Louis, Missouri, August 23-24, 1920, and of the eighteenth annual meeting held at Chicago, Illinois, December 28-30, 1920. 232 p. 8°. (H. C. Jones, secretary, University of Illinois, Urbana, Ill.)

Contains: 1. E. A. Gilmore: Some criticisms of legal education, p. 140-56. 2. Report of the committee on the status of the law teacher, p. 166-77.

## MEDICINE AND NURSING.

1373. **Gile, John M.** Medical education and the medical supply. Boston medical and surgical journal, 185: 387-90, September 29, 1921.

Reviews the history of medical education, and the demand for physicians in rural districts.

1374. **Macdonald, V. M.** Mental health of children. American journal of nursing, 22: 6-8, October 1921.

First paper of a series. A discussion of mental disorder and methods of prevention.

1375. **Olmstead, Katherine.** International training at Bedford college. Nation's health, 3: 494-95, September 1921.

Projected course of study in public health nursing at Bedford college for women. University of London.

1376. **Painter, Charles F.** The interest of the public in medical education. Boston medical and surgical journal, 185: 427-32, October 13, 1921.

Discusses some of the defects in present-day medical education.

1377. **Skilern, Ross H.** Postgraduate work in laryngology. Journal of the American medical association, 77: 1145-46, October 8, 1921.

1378. **Vincent, George E.** The passing of the country doctor. Forum, 66: 300-7, October 1921.

Describes the readjustments of medical education to changed conditions during the past 20 or 30 years. Says that the reluctance of young doctors to settle in rural communities is one of the most disquieting results of the raising of standards in medical training.

1379. **Watson, Grace.** Practical nursing—yesterday and to-day. American journal of nursing, 22: 25-31, October 1921.

By practical nursing of yesterday is meant the average standard of nursing work in hospitals of a period of 20 or more years. Discusses also the work of today.

## DENTISTRY AND PHARMACY.

1380. **American conference of pharmaceutical faculties.** Proceedings of the twenty-first annual meeting, Washington, D. C., May 5-6, 1920. 200 p. 8°. (Theodore J. Bradley, secretary-treasurer, College of pharmacy, Boston, Mass.)

1381. **American institute of dental teachers.** Proceedings of the twenty-eighth annual meeting . . . held at Indianapolis, Indiana, January 24-26, 1921. Published by American institute of dental teachers. 157 p. 8°. (Abram Hoffman, secretary, 381 Linwood Avenue, Buffalo, N. Y.)

Contains: 1. A. D. Black: Progress in dental education, p. 14-25. 2. G. S. Millberry: Training dental teachers, p. 37-42. 3. G. B. Denton: Technical composition and scientific methodology for dental students, p. 69-77. 4. F. C. Waite: The dental school catalogue, its content and arrangement, p. 87-100.

1382. **National association of dental faculties.** Proceedings of . . . thirty-seventh annual meeting, held at Boston, Mass., August 20 and 21, 1920. 115 p. 8°. (DeL. L. Hill, secretary, Atlanta, Ga.)



## CIVIC EDUCATION.

1883. **American school citizenship league. History committee.** An American citizenship course in United States history. General course for grades I-VIII, introducing a program of type studies. Published for the American school citizenship league. New York, Chicago [etc.] C. Scribner's sons [1921] vi, 167 p. 12°.

Members of committee: W. F. Gordy, chairman; P. P. Claxton, C. E. Chadsey, J. H. Van Sickle, Mr. and Mrs. J. W. Hall, Fannie Fern Andrews.

CONTENTS.—To the teacher.—Grades I, II, and III: Primitive life and the beginnings of things.—Grades IV and V: Biographies of representative men.—Grade VI: European beginnings of American history.—Grade VI: Exploration, colonization, independence, confederation, and the Constitution.—Grade VIII: The development of the United States under the Constitution.—Bibliography, Grades IV-VIII.

1884. **Armentrout, W. D.** A project in elementary-school citizenship. Elementary school journal, 22: 118-25, October 1921.

Discusses the attempt to organize student government in the elementary training school of the Colorado state teachers' college. Presents the constitution and by-laws of the junior council.

1885. **Barnes, Julius H.** Teaching current events as training for citizenship. American review of reviews, 64: 385-87, October 1921.

1886. **Smith, R. B.** Teaching civics as a science in the Joliet township high school. Pedagogical seminary, 28: 295-302, September 1921.

1887. **White, E. M.** Civics in continuation schools. Journal of education and School world (London) 53: 634-36, October 1, 1921.

Stresses curricula based on conditions in England and the British commonwealth. Gives a bibliography on the League of Nations.

## AMERICANIZATION.

1888. **Breckinridge, Sophonisba P.** New homes for old. New York and London, Harper & brothers, 1921. xv, 356 p. plates. 12°. (Americanization studies. Allen T. Burns, director)

1889. **Massachusetts. Department of education. Division of university extension.** Thirty lessons in naturalization and citizenship; an outline for teachers of adult immigrants. Boston, Mass., 1921. 119 p. 8°. (Commonwealth of Massachusetts. Bulletin of the Department of education. vol. vi, no. 6, whole no. 39, November 1921)

## EDUCATION OF WOMEN.

1890. **Adams, Elizabeth Kemper.** Women professional workers; a study made for the Women's educational and industrial union. New York, The Macmillan company, 1921. xiv, 467 p. 12°.

The author first analyzes and defines the nature of a profession, and discusses the general subject of women as professional workers. Next in order after the "learned professions"—medicine, law, the ministry—the various other groups of professional services open to women are described. These services are health other than medicine; food and living; community, civic, and government; social; personnel or employment; industrial and labor; commercial—office and mercantile, and special; information (journalism, etc.); fine and applied arts; technical; library and museum; teaching and other educational services. The volume concludes with a selected and annotated reading list. The introduction is by Samuel P. Capen.

1391. **Charters, W. W.** The reorganization of women's education. *Educational review*, 62: 224-31, October 1921.

Criticises the alleged shortcomings of the public school curriculum, and then discusses the activities of the woman's college.

1392. **Hamilton, Edith.** Schools and daughters. *North American review*, 214: 518-26, October 1921.

Discusses the choice of a school or college for girls.

### NEGRO EDUCATION.

1393. **Boyer, Philip Albert.** The adjustment of a school to individual and community needs. Philadelphia, Pa., 1920. 141 p. tables. 8°.

Thesis (Ph. D.)—University of Pennsylvania, 1920.

A study of the Stanton-Arthur school, which serves a negro section in Philadelphia.

1394. **Miller, Kelly.** Education of the negro in the North. *Educational review*, 62: 232-38, October 1921.

1395. **Snyder, Howard.** Paradise negro school. *Yale review*, 11: 158-60, October 1921.

Describes a negro rural school in Mississippi.

1396. **Taylor, R. B.** Tuskegee's mechanical department. *Southern workman*, 50: 457-68, October 1921.

Methods of teaching the trades, etc., at Tuskegee institute. Illustrated.

### EDUCATION OF DEAF.

1397. **Bickler, Mary H.** How a deaf child was taught speech-reading and speech. *Volta review*, 23: 455-70, October 1921.

Concluded from September number.

1398. **Goodwin, Elizabeth.** An experiment in teaching language on individual lines. *Volta review*, 23: 435-45, October 1921.

An experiment in teaching deaf children, with general observations on language instruction.

1399. **Manning, Arthur C.** Religious education of the deaf. *American annals of the deaf*, 66: 354-61, September 1921.

### EXCEPTIONAL CHILDREN.

1400. National conference on the education of truant, backward, dependent and delinquent children and the American association of public officials of charity and correction. Proceedings of the joint conference of the seventeenth national conference. . . . Held in Chicago, St. Charles, Geneva, Riverside, and Mooseheart, Illinois, June 21-25, 1920. (Secretaries, H. W. Moore, Florence, S. C., and W. G. Theurer, Philadelphia, Pa.)

Contains: 1. David Kinley: State universities and State welfare institutions, p. 5-9. 2. W. L. Kuser: The school's responsibility to the pupil, p. 13-20. 3. E. A. Doll: Intelligence and industrial tests in institutional administration, p. 35-42.

1401. **Clark, Willis W.** Success records of prisoners and delinquents. *Journal of delinquency*, 6: 443-52, July 1921.

Study based on reports of many of the larger correctional institutions on file in the library of the California bureau of juvenile research.

1402. **Gesell, Arnold.** Exceptional children and public school policy; including a mental survey of the New Haven elementary schools. New Haven, Yale university press, 1921. 66 p. diagrs., fold. map. 8°.

1408. **Springer, Ethel M.** Children deprived of parental care; a study of children taken under care by Delaware agencies and institutions. Washington, Government printing office, 1921. 96 p. incl. tables. 8°. ([U. S.] Children's bureau. Dependent, defective and delinquent classes series no. 12. Bureau publication no. 81.)

### EDUCATION EXTENSION.

1404. **Great Britain. Board of education.** Humanism in the continuation school. London, H. M. stationery office, 1921. 135 p. 12°. (Educational pamphlets, no. 43)

Written by J. Dover Wilson, after a study of the working of evening continuation schools in England with special reference to the question of using the limited opportunities of those schools to widen the intellectual horizon of young people who cease full-time education at the age of 14.

1405. **Yeaxlee, Basil A.** The universities and the people. Contemporary review, 120: 516-24, October 1921.

The service of the British universities for the people, especially through educational settlements.

### LIBRARIES AND READING.

1406. **Bowker, B. B.** Some children's librarians. Library journal, 46: 787-90, October 1, 1921.

This article dealing with pioneers in the Eastern field is to be continued in a second paper on other children's librarians, chiefly in the West. Illustrated by portraits.

1407. **Guilfoile, Elizabeth.** Using the public library in the teaching of reading. Elementary school journal, 22: 126-131, October 1921.

Work of the C class of the fourth grade at the Avondale school, Cincinnati, Ohio. Progress in selection, care, and use of books. Class gained in reading ability.

### BUREAU OF EDUCATION: RECENT PUBLICATIONS.

1408. Education in homeopathic medicine during the biennium 1918-1920; by W. A. Dewey. Washington, 1921. 7 p. (Bulletin, 1921, no. 18)

Advance sheets from the Biennial survey of education in the United States, 1918-1920.

1409. Education of the deaf; by Percival Hall. Washington, 1921. 16 p. (Bulletin 1921, no. 14)

Advance sheets from the Biennial survey of education in the United States, 1918-1920.

1410. Facilities for foreign students in American colleges and universities; by Samuel Paul Capen, former specialist in higher education, Bureau of education. Washington, 1921. 269 p. plates. (Bulletin, 1920, no. 39)

1411. Higher education 1918-1920; by George F. Zook, specialist in higher education, Bureau of education. Washington, 1921. 46 p. (Bulletin, 1921, no. 21)

Advance sheets from the Biennial survey of education in the United States, 1918-1920.

1412. Medical education 1918-1920; by N. P. Colwell. Washington, 1921. 15 p. (Bulletin, 1921, no. 15)

Advance sheets from the Biennial survey of education in the United States, 1918-1920.

1413. Part-time education of various types. A report of the Commission on the reorganization of secondary education, appointed by the National education association. Washington, 1921. 22 p. (Bulletin, 1921, no. 5)

This report presents various types of part-time education, including continuation classes, and indicates some of the administrative features desirable. One section is devoted to Educational and vocational guidance, with a discussion of the functions of a director of vocational guidance and of vocational counselors in the schools.

1414. Proceedings of the fifth and sixth annual meetings of the National council of primary education, Cleveland, Ohio, February 24, 1920, and Des Moines, Iowa, March 3, 1921. Washington, 1921. 44 p. (Bulletin, 1920, no. 47)

1415. Special features in the education of the blind during the biennium 1918-1920; by Edward E. Allen. Washington, 1921. 14 p. (Bulletin, 1921, no. 16)

Advance sheets from the Biennial survey of education in the United States, 1918-1920.

1416. Suggestions for a program for health teaching in the elementary schools; by J. Mace Andress and Mabel C. Bragg. Washington, 1921. 107 p. illus. (Health education series, no. 10)

1417. Suggestions for the reorganization of the schools in Currituck county, North Carolina; by Katherine M. Cook. Washington, 1921. 31 p. map, tables. (Bulletin, 1921, no. 24)

A study of conditions of the public school system of a rural county in North Carolina, with suggestions for its improvement.

1418. Survey of the schools of Wilmington, Delaware. Part II.—I. The elementary courses. II. Secondary education. III. Special departments and subjects. Washington, 1921. 191 p. (Bulletin, 1921, no. 2)

1419. The teaching of civics as an agency for community interest and citizenship; by John James Tigert, United States Commissioner of education. Washington, 1921. 10 p.

Makes suggestions for a more practical course of study in civics, and for the adoption of the project method in civics instruction.

1420. The visiting teacher; by Sophia C. Gleim. Washington, 1921. 23 p. (Bulletin, 1921, no. 10)

Visiting teacher and home and school bibliography: p. 18-23.

Summarizes the method of establishing closer relations between the home and school followed by various States and cities in providing for visiting teachers.





DEPARTMENT OF THE INTERIOR  
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# ENGINEERING EDUCATION AFTER THE WAR

By

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## ENGINEERING EDUCATION AFTER THE WAR.

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The period covered by this paper followed the demobilization of that experiment in education under war conditions known as the Students' Army Training Corps.

During the early part of 1917 many engineering students withdrew from the school of engineering to enter different branches of the Army and Navy of the United States, and others at this time, and even during the previous years from the outbreak of the World War in 1914, withdrew to enter the service of our allies or to become Red Cross drivers or workers. These withdrawals, followed by withdrawals due to the application of the Selective Service Draft Law, made it clear that steps must be taken to provide the Nation with men trained in engineering to fill the numerous places created by the war in the service of the United States and in the industries.

For the purpose of conserving the engineers in training, the Engineer Corps of the United States Army made provision to enlist engineering students of the proper age in a Reserve Officers' Corps and to assign them back to their colleges to complete their engineering work. This did not prove entirely satisfactory, and its inadequacy was soon manifest. To care for all branches of the service, and to train men as officers, the colleges and universities of the country were organized to receive and train members of the Students' Army Training Corps.

### STUDENTS' ARMY TRAINING CORPS.

During the summer of 1918 it became evident that, with the application of the selective draft law, steps would have to be taken to preserve the educational institutions of the country and to supply the country with trained men. After a number of conferences between educators and Government officers, the War Department organized a Committee on Education and Special Training, consisting of Col. Robert I. Rees, General Staff Corps; Col. John H. Wigmore, Provost Marshal General's Office; Lieut. Col. Grenville Clark, Adjutant General's Office; and Maj. Wm. R. Orton, War Plans Division, with Ralph Barton Perry as executive secretary. In addition to this committee, an advisory board representing the educational interests was formed, composed of President James R. Angell, Samuel P. Capen, James W. Dietz, Hugh Frayne, Charles R. Mann, Raymond H. Pearson, and Herman Schneider. About the end of July, 1918, after plans were prepared for the use of the colleges, the Secretary of War appointed President R. C. Maclaurin, of the Massachusetts Institute of Technology, Director of College Training. The country was divided into 12 districts for this purpose, with a subdirector in each district. Practically all of the colleges of the United States entered into contracts with the Government to give instruction to men who were to be members of the Students' Army Training Corps. The various institutions made contracts for the subsistence, housing, and education of members of this corps, together with contracts for expenses connected with the construction of temporary buildings or making alterations in existing buildings belonging to the colleges, for the purpose of fitting them to the needs of the Government.

The Students' Army Training Corps was raised under authority of the act of Congress approved May 18, 1917, commonly known as the Selective Service Act, authorizing the President to increase temporarily the Military Establishment of the United States as amended by the act of August 31, 1918, and under General Order No. 79 of the War Department dated August 24, 1918, which was as follows:

Under the authority conferred by sections 1, 2, 8, and 9 of the act of Congress authorizing the President to increase temporarily the Military Establishment of the United States, approved May 18, 1917, the President directs that for the period of the existing

emergency there shall be maintained by voluntary induction and draft a Students' Army Training Corps. Units of this corps will be authorized by the Secretary of War at educational institutions that meet the requirements laid down in special regulations.

The object of establishing the Students' Army Training Corps was to utilize effectively the plant, equipment, and organization of the colleges for selecting and training officer candidates and technical experts for service in the existing emergency. For purposes of military organization the members of the corps formed single units, but for purposes of instruction the unit consisted of one or more sections, according to the type of educational training given.

The collegiate section (known as section A) was authorized in any civil educational institution which required for admission to its regular curricula graduation from a standard four-year secondary school or an equivalent, and provided a general or professional curriculum covering at least two years of not less than 32 weeks each and had a student attendance sufficient to maintain a collegiate section of a strength of at least 100 men. Collegiate sections of the Students' Army Training Corps were organized in colleges of arts and sciences, technology, engineering, mines, agriculture and forestry, business administration, industry and commerce, pharmacy, veterinary medicine, education, law, medicine, dentistry and in graduate schools, normal schools, junior colleges, and technical institutes.

The vocational section (known as section B) was authorized in institutions having adequate equipment.

A registrant of the Students' Army Training Corps became an enlisted man in the Army of the United States, or, on the establishment of naval units, in the Navy of the United States. This induction was voluntary, under the selective service regulations. Upon induction members of the Students' Army Training Corps were placed on active duty status, and the Committee on Education and Special Training entered into contracts with educational institutions for the quartering, subsistence, and instruction of such men. It was also understood that from time to time members of the corps might be assigned to training camps, training schools, depot brigades, or to do special technical work at collegiate institutions. It was also planned to give consideration to the preference of the registrants to the branch of service which they would ultimately enter.

The administration of the corps was carried on by the War Department through its Committee on Education and Special Training of the Training and Instruction Branch, War Plans Division, General Staff, assisted by the Advisory Educational Board, together with educational directors, district educational directors, and special advisers. The War Department provided an officer of the Army at each college to serve as commanding officer, and the commanding officer and other officers assigned to duty with different units were directed to observe the general usages of the various institutions affecting the duties and obligations of the members of the faculty or other academic instructors. They were not permitted to undertake any instructional or administrative duties in the institution other than those connected with the military work of the corps. The military officers were assigned to the duty of enforcing military discipline, but no authority was given them to direct or interfere with purely educational matters.

The original plan of training consisted of 11 hours of military studies, including drill, theoretical and military instruction, and physical training, and 42 hours per week for allied subjects. These 42 hours included lectures, recitations, laboratory instruction, and necessary preparation therefor. After two terms of work the arrangement provided for 6 hours of military training and 47 hours of study of the allied subjects. It will be seen later that suggested courses for technical schools were submitted by the committee from which the actual courses given at an institution were planned and submitted for approval to the regional director.

The Committee on Education and Special Training issued from time to time circulars regarding the treatment of the various subjects in accordance with the aims of the War Department.

The allied subjects mentioned above included the following: English, French, German, mathematics, physics, chemistry, biology, psychology, geology, geography, topography and map drawing, meteorology, astronomy, hygiene, sanitation, descriptive geometry, mechanical and free-hand drawing, surveying, economics, accounting, history, international law, military law and government. In the case of the technical and professional schools, provisions were made for approving a general program containing subjects other than those included in the above list, and also permission could be granted any institution for the recognition as an allied subject one subject outside the foregoing list provided it occupied not more than three hours per week in lectures and recitations combined.

A special course in war issues was demanded in all programs of study for section A. This was to cover three classroom hours per week for two terms. This course was intended to give students a clear understanding of the causes of the war and the various steps previous to the beginning of hostilities.

In section B the required hours were as follows: Military subjects, including drill and physical training, 15½ hours; vocational subjects, 33 hours; war issues, 1 hour.

The general scheme for work in section A covered a period of eight terms of 12 weeks each, with a vacation period of one week at the end of each term. In this way the academic or technical work would be done in a period of two years, and it was hoped that the men thus trained would be prepared for technical work or for officer material.

The proposed schedules of studies for the four engineering courses as proposed by the Committee on Educational and Special Training are given herewith:

## CIVIL ENGINEERING.

FIRST TERM.		Hours per week.	FIFTH TERM—continued.		Hours per week.
Mathematics.....		12	Highway engineering.....		6
Chemistry.....		12	Map reading and topographical drawing.....		2
Drawing and descriptive geometry or surveying.....		9	Geology.....		8
War issues and English composition.....		9	Military training.....		6
Military training.....		11	Total.....		53
Total.....		53			
SECOND TERM.			SIXTH TERM.		
Mathematics.....		12	Theory of structures.....		9
Chemistry.....		12	Bridge design.....		4
Drawing and descriptive geometry or surveying.....		9	Railroad engineering (including drafting).....		9
War issues and English composition.....		9	Hydraulics.....		13
Military training.....		11	Electrical engineering.....		12
Total.....		53	Military training.....		6
			Total.....		53
THIRD TERM.			SEVENTH TERM.		
Mathematics.....		12	Theory of structures.....		12
Physics.....		14	Bridge design.....		10
Mechanics and mechanism.....		15	Railroad engineering.....		4
Drawing and descriptive geometry or surveying.....		6	Heat engineering.....		12
Military training.....		6	Hydraulic and sanitary engineering.....		9
Total.....		53	Military training.....		6
			Total.....		53
FOURTH TERM.			EIGHTH TERM.		
Mathematics.....		9	Theory of structures.....		12
Physics.....		14	Hydraulic and sanitary engineering and design.....		16
Mechanics.....		15	Heat engineering.....		9
Surveying or drawing.....		9	Railroad design.....		3
Military training.....		6	Sanitary science and public health.....		1
Total.....		53	Business law and accounting.....		6
			Military training.....		6
FIFTH TERM.			Total.....		53
Theory of structures.....		6			
Materials.....		10			
Railroad engineering (including drafting and field work).....		15			

Courses divided between surveying and drawing were to be given in accordance with the season of year in which they came and the number registered. The total time allotment to surveying was to be equivalent to 12 hours per week for one term.

### MECHANICAL ENGINEERING.

FIRST TERM	Hours per week.	FIFTH TERM—continued.	Hours per week.
Mathematics.....	12	Applied mechanics.....	12
Drawing and descriptive geometry.....	9	Machine drawing.....	6
Chemistry.....	12	Shopwork.....	4
War issues and English composition.....	9	Military training.....	6
Military training.....	11	Total.....	53
Total.....	53		
SECOND TERM.		SIXTH TERM.	
Mechanism.....	9	Heat engineering and engineering laboratory....	15
Mathematics.....	12	Hydraulics.....	11
Chemistry.....	12	Applied mechanics.....	10
War issues and English composition.....	9	Electrical engineering laboratory.....	7
Military training.....	11	Shopwork.....	4
Total.....	53	Military training.....	6
		Total.....	53
THIRD TERM.		SEVENTH TERM.	
Mechanism and mechanical engineering drawing.....	10	Materials of engineering and testing materials laboratory.....	12
Mathematics.....	12	Mechanism of machines.....	5
Physics.....	14	Machine design.....	10
Shopwork.....	4	Applied mechanics.....	10
Surveying, map reading, and topographical drawing.....	7	Surveying or refrigeration.....	2
Military training.....	6	Shopwork.....	4
Total.....	53	Engineering laboratory.....	4
		Military training.....	6
		Total.....	53
FOURTH TERM.		EIGHTH TERM.	
Applied mechanics.....	12	Power plant design.....	5
Mathematics.....	12	Industrial plants (including heating and ventilation).....	16
Mechanical engineering drawing.....	5	Mechanics of engineering.....	7
Physics and physical laboratory.....	14	Engineering laboratory.....	10
Shopwork.....	4	Gas motors.....	5
Military training.....	6	Shopwork.....	4
Total.....	53	Military training.....	6
		Total.....	53
FIFTH TERM.			
Heat engineering and engineering laboratory....	15		
Electrical engineering.....	40		

In place of gas motors, 60 hours (total) of laboratory and lecture work may be assigned to heat treatment.

### ELECTRICAL ENGINEERING.

FIRST TERM.	Hours per week.	THIRD TERM.	Hours per week.
Mathematics.....	12	Mathematics.....	12
Drawing and descriptive geometry.....	9	Physics.....	14
Chemistry.....	12	Mechanics and applied mechanics.....	12
War issues and English composition.....	9	Mechanical engineering drawing.....	9
Military training.....	11	Military training.....	6
Total.....	53	Total.....	53
SECOND TERM.		FOURTH TERM.	
Mathematics.....	12	Mathematics.....	12
Chemistry.....	12	Physics.....	14
Drawing and descriptive geometry.....	9	Elements of electrical engineering.....	2
War issues and English composition.....	9	Applied mechanics.....	12
Military training.....	11	Surveying, map reading, and topographical drawing.....	7
Total.....	53	Military training.....	6
		Total.....	53

FIFTH TERM.	Hours per week.
Elements of electrical engineering and direct-current machinery.....	15
Electrical engineering laboratory.....	8
Heat engineering.....	9
Materials of engineering.....	6
Shopwork.....	9
Military training.....	6
Total.....	53

SIXTH TERM.	Hours per week.
Variable and alternating currents.....	12
Electrical engineering laboratory.....	12
Heat engineering.....	9
Mechanical engineering laboratory.....	8
Structures or machine design.....	6
Military training.....	6
Total.....	53

SEVENTH TERM.	Hours per week.
Alternating current machinery.....	15
Electrical engineering laboratory.....	8
Hydraulics.....	9
Electrical transmission (power and telephone).....	15
Military training.....	6
Total.....	53

EIGHTH TERM.	Hours per week.
Alternating current machinery.....	8
Electrical engineering laboratory.....	6
Power stations (steam and hydraulic).....	13
Motor applications, lighting and storage batteries.....	16
Business law and accounting.....	4
Military training.....	6
Total.....	53

## CHEMICAL ENGINEERING.

FIRST TERM.	Hours per week.
Inorganic chemistry.....	21
Mathematics.....	12
War issues and English composition.....	9
Military training.....	11
Total.....	53

SECOND TERM.	Hours per week.
Inorganic chemistry and qualitative analysis.....	21
Mathematics.....	12
War issues and English composition.....	9
Military training.....	11
Total.....	53

THIRD TERM.	Hours per week.
Qualitative analysis.....	12
Quantitative analysis.....	2
Mathematics.....	12
Physics.....	14
General engineering drawing.....	7
Military training.....	6
Total.....	53

FOURTH TERM.	Hours per week.
Quantitative analysis.....	14
Elements of organic chemistry.....	6
Physics.....	12
Theoretical and applied mechanics.....	7
General engineering drawing.....	8
Military training.....	6
Total.....	53

FIFTH TERM.	Hours per week.
Quantitative analysis.....	15
Physical chemistry.....	17
Theoretical and applied mechanics.....	15
Military training.....	6
Total.....	53

SIXTH TERM.	Hours per week.
Physical chemistry.....	17
Organic chemistry.....	18
Elements of electrical engineering.....	12
Military training.....	6
Total.....	53

SEVENTH TERM.	Hours per week.
Organic chemistry.....	16
Chemical technology.....	8
Proximate technical analysis.....	8
Elements of thermodynamics and heat engineering.....	15
Military training.....	6
Total.....	53

EIGHTH TERM.	Hours per week.
Chemical technology.....	24
Chemical warfare.....	1
Engineering materials.....	12
Mechanical engineering laboratory.....	10
Military training.....	6
Total.....	53

To show how closely the schedule suggested by the Committee on Education and Special Training was carried out in one instance, the schedules given below were submitted by the Rensselaer Polytechnic Institute and approved by the regional director, President Charles Alexander Richmond, of Union College, Schenectady, N. Y.

The numbers given after courses represent clock hours in the following order: Recitation, preparation, lecture, laboratory, followed by total number of hours.

## RENSSELAER POLYTECHNIC INSTITUTE.

CIVIL ENGINEERING.<sup>1</sup>

FIRST TERM.		Hours per week.	FIFTH TERM—continued.		Hours per week.
Algebra 4-8-0-0.....	12		Highways 2-4-0-0.....	6	
Chemistry 2-4-2-4.....	12		Map reading and top drawing 0-0-0-2.....	2	
Drawing 1-2-0-6.....	9		Geology 2-4-2-0.....	8	
War issues 3-6-0-0.....	9		Military training.....	6	
Military training.....	11		Total.....	53	
Total.....	53				
SECOND TERM.			SIXTH TERM.		
Trigonometry and analytics 4-8-0-0.....	12		Structures and bridge design 4-8-1-0.....	12	
Chemistry 0-0-0-12.....	12		Railroad engineering 2-4-0-0.....	6	
Descriptive geometry 2-4-0-3.....	9		Geodesy 1-2-0-1.....	4	
War issues 3-6-0-0.....	9		Hydraulics 4-8-0-0.....	12	
Military training.....	11		Electrical engineering 2-4-2-4.....	12	
Total.....	53		Military training.....	6	
			Total.....	53	
THIRD TERM.			SEVENTH TERM.		
Analytics and calculus 4-8-0-0.....	12		Bridge design 4-8-0-0.....	12	
Physics 2-4-4-4.....	14		Reinforced concrete 3-6-1-0.....	10	
Mechanism 3-6-0-0.....	9		Steam engines 3-6-0-0.....	9	
Surveying 1-2-0-3.....	6		Power plants 0-0-0-3.....	8	
Descriptive geometry 1-2-0-3.....	6		Business law and accounting 1-2-1-0.....	4	
Military training.....	6		Hydraulic and sanitary engineering 3-6-0-0.....	9	
Total.....	53		Military training.....	6	
			Total.....	53	
FOURTH TERM.			EIGHTH TERM.		
Calculus 4-8-0-0.....	12		Bridge design 0-0-0-12.....	12	
Physics 2-4-4-4.....	14		Hydraulic and sanitary engineering design 2-4-0-4.....	10	
Mechanics 2-4-0-0.....	6		Thermodynamics 2-4-0-0.....	6	
Railroad engineering 2-4-0-0.....	6		Mechanical laboratory 0-0-0-2.....	2	
Surveying 1-2-0-6.....	9		Railroad engineering 0-0-0-9.....	9	
Military training.....	6		Machine design 0-0-0-2.....	2	
Total.....	53		Sanitary science and public health 1-2-1-0.....	4	
			Astronomy 0-0-0-2.....	2	
FIFTH TERM.			Military training.....	6	
Theoretical mechanics 2-4-0-0.....	6		Total.....	53	
Applied mechanics 4-8-0-0.....	12				
Materials laboratory 0-0-0-4.....	4				
Railroad engineering 0-0-0-9.....	9				

MECHANICAL ENGINEERING.<sup>1</sup>

FIRST TERM.		Hours per week.	THIRD TERM.		Hours per week.
Algebra 4-8-0-0.....	12		Analytics and calculus 4-8-0-0.....	12	
Chemistry 2-4-2-4.....	12		Physics 2-4-4-4.....	14	
Drawing 1-2-0-6.....	9		Mechanism 3-6-0-0.....	9	
War issues 3-6-0-0.....	9		Chemistry 0-0-0-12.....	12	
Military training.....	11		Military training.....	6	
Total.....	53		Total.....	53	
SECOND TERM.			FOURTH TERM.		
Trigonometry and analytics 4-8-0-0.....	12		Calculus 4-8-0-0.....	12	
Steam engineering 3-6-0-0.....	9		Physics 2-4-4-4.....	14	
Mechanism 1-2-0-0.....	3		Mechanics 2-4-0-0.....	6	
Descriptive geometry 2-4-0-3.....	9		Surveying 1-2-0-4.....	7	
War issues 3-6-0-0.....	9		Shop 0-0-0-8.....	8	
Military training.....	11		Military training.....	6	
Total.....	53		Total.....	53	

<sup>1</sup> The numbers given after the courses represent the clock hours in the following order: Recitation, preparation, lecture, laboratory, followed by total number of hours.

FIFTH TERM.	Hours per week.
Theoretical mechanics 2-4-0-0.....	6
Applied mechanics 4-8-0-0.....	12
Thermodynamics 3-6-0-0.....	9
Electrical engineering 3-6-1-0.....	19
Boilers 2-4-0-0.....	6
Shop 0-0-0-4.....	4
Military training.....	6
Total.....	53

SIXTH TERM.	Hours per week.
Structures 3-6-0-0.....	9
Hydraulics 4-8-0-0.....	12
Heat engines 3-6-0-0.....	9
Naval architecture 0-0-0-2.....	2
Mechanical laboratory 0-0-0-4.....	4
Electrical laboratory 0-0-0-7.....	7
Shop 0-0-0-4.....	4
Military training.....	6
Total.....	53

SEVENTH TERM.	Hours per week.
Metallurgy 3-6-0-0.....	9
Materials laboratory 0-0-0-3.....	3

SEVENTH TERM—continued.	Hours per week.
Graphics of machinery 1-2-0-2.....	5
Machine design 2-4-0-4.....	10
Steam engine design 3-6-0-0.....	9
Refrigeration 1-2-0-0.....	3
Business law and accounting 1-2-1-0.....	4
Mechanical laboratory 0-0-0-4.....	4
Military training.....	6
Total.....	53

EIGHTH TERM.	Hours per week.
Power plants 1-2-0-2.....	5
Industrial plants 3-6-0-0.....	9
Marine engineering 1-2-0-0.....	3
Heating and ventilation 2-4-0-0.....	6
Automobile design 0-0-0-4.....	4
Gas engine 2-4-0-0.....	6
Hydraulic turbines 1-2-0-0.....	3
Shop 0-0-0-8.....	8
Mechanical laboratory 0-0-0-3.....	3
Military training.....	6
Total.....	53

# ELECTRICAL ENGINEERING.<sup>1</sup>

FIRST TERM.	Hours per week.
Algebra 4-8-0-0.....	12
Chemistry 2-4-2-4.....	12
Drawing 1-2-0-6.....	9
War issues 3-6-0-0.....	9
Military training.....	11
Total.....	53

SECOND TERM.	Hours per week.
Trigonometry and analytics 4-8-0-0.....	12
Steam engineering 3-6-0-0.....	9
Mechanism 1-2-0-0.....	3
Descriptive geometry 2-4-0-3.....	9
War issues 3-6-0-0.....	9
Military training.....	11
Total.....	53

THIRD TERM.	Hours per week.
Analytics and calculus 4-8-0-0.....	12
Physics 2-4-4-4.....	14
Mechanism 3-6-0-0.....	9
Chemistry 0-0-0-12.....	12
Military training.....	6
Total.....	53

FOURTH TERM.	Hours per week.
Calculus 4-8-0-0.....	12
Physics 2-4-4-4.....	14
Elements of electrical engineering 0-0-2-0.....	2
Mechanics 2-4-0-0.....	6
Shop 0-0-0-8.....	6
Surveying 1-2-0-4.....	7
Military training.....	6
Total.....	53

FIFTH TERM.	Hours per week.
Theoretical mechanics 2-4-0-0.....	6
Applied mechanics 4-8-0-0.....	12
Elements of electrical engineering and direct current machinery 5-10-0-0.....	15
Electrical engineering laboratory 0-0-0-8.....	8
Thermodynamics 2-4-0-0.....	6
Military training.....	6
Total.....	53

SIXTH TERM.	Hours per week.
Variable and alternating current 4-8-0-0.....	12
Electrical engineering laboratory 0-0-0-12.....	12
Hydraulics 4-8-0-0.....	12
Mechanical laboratory 0-0-0-5.....	5
Machine design 1-2-0-3.....	6
Military training.....	6
Total.....	53

SEVENTH TERM.	Hours per week.
Alternating current machinery 2-6-4-3.....	15
Electrical engineering laboratory 0-0-0-8.....	8
Electrical transmission 5-10-0-0.....	15
Business law and accounting 1-2-1-0.....	4
Boilers 1-2-0-2.....	5
Military training.....	6
Total.....	53

EIGHTH TERM.	Hours per week.
Alternating current machinery, 2-4-2-0.....	8
Electrical engineering laboratory, 0-0-0-6.....	6
Power plants, mechanical, 1-2-0-2.....	5
Power plants, electrical, 1-2-0-2.....	5
Hydraulic turbines 1-2-0-0.....	3
Motor application, lighting and storage batteries 3-6-3-3.....	15
Heat engines 1-2-0-2.....	5
Military training.....	6
Total.....	53

<sup>1</sup> The numbers given after the courses represent the clock hours in the following order: Recitation, preparation, lecture, laboratory, total.



CHEMICAL ENGINEERING.<sup>1</sup>

FIRST TERM.	Hours per week.	FIFTH TERM—continued.	Hours per week.
Algebra 4-8-0-0.....	12	Chemistry, organic 3-6-0-10.....	19
Chemistry 2-4-2-4.....	12	Military training.....	6
Drawing 1-2-0-6.....	9	Total.....	53
War issues 3-6-0-0.....	9		
Military training.....	11		
Total.....	53		
		SIXTH TERM.	
SECOND TERM.		Structures 1-2-0-0.....	3
Trigonometry and analytics 4-8-0-0.....	12	Electrical engineering laboratory 0-0-0-7.....	7
Chemistry 2-4-0-0.....	6	Hydraulics 4-8-0-0.....	12
Chemistry 0-0-0-12.....	12	Machine design 1-2-0-3.....	6
Mechanical drawing, 0-0-0-3.....	3	Physical chemistry 3-6-0-8.....	17
War issues 3-6-0-0.....	9	Gas analysis 0-0-0-2.....	2
Military training.....	11	Military training.....	6
Total.....	53	Total.....	53
THIRD TERM.		SEVENTH TERM.	
Analytics and calculus 4-8-0-0.....	12	Metallurgy 3-6-0-0.....	9
Physics 2-4-4-4.....	14	Business law and accounting 1-9-1-0.....	4
Chemistry, quantitative 3-6-0-0.....	9	Materials laboratory 0-0-0-3.....	3
Chemistry, qualitative 0-0-0-12.....	12	Steam engines 2-4-0-0.....	6
Military training.....	6	Water analysis 0-0-0-10.....	10
Total.....	53	Electrochemistry 1-2-1-4.....	8
		Physical chemistry 1-2-0-0.....	3
		Mechanical laboratory 0-0-0-4.....	4
		Military training.....	6
		Total.....	53
FOURTH TERM.		EIGHTH TERM.	
Calculus 4-8-0-0.....	12	Sewage 1-2-1-0.....	4
Physics 2-4-4-4.....	14	Power plants 1-9-0-3.....	5
Chemistry 2-4-0-0.....	15	Thermodynamics 2-4-0-0.....	6
Mechanics 2-4-0-0.....	6	Surveying and topography 1-2-0-4.....	7
Military training.....	6	Mechanism 2-4-0-0.....	6
Total.....	53	Food analysis 1-2-0-4.....	7
		Industrial chemistry 2-4-0-2.....	8
		Sanitary science and public health 1-2-1-0.....	4
		Military training.....	6
		Total.....	53
FIFTH TERM.			
Theoretical mechanics 2-4-0-0.....	6		
Applied mechanics 4-8-0-0.....	12		
Electrical engineering 2-6-2-0.....	10		

To care for men who had been at the Rensselaer Polytechnic Institute for one or two years, the following schedules were arranged.

Work was to be done as of third term for men who had been at the institute one year of two terms and who were taking the third term at this time. Numbers after courses have the same meaning as given on complete schedules, viz, clock hours devoted to recitations, preparation, lecture, laboratory, followed by total.

CIVIL ENGINEERS.	Hours per week.	MECHANICAL AND ELECTRICAL ENGINEERS.	Hours per week.
Calculus, 4-8-0-0.....	12	Calculus, 4-8-0-0.....	12
Physics, 2-4-2-2.....	10	Physics, 2-4-0-2.....	8
Mechanism, 5-10-0-0.....	15	Mechanism, 5-10-0-0.....	15
Highways, 2-4-0-0.....	6	Chemical laboratory, 0-0-0-9.....	9
Surveying, 1-2-0-1.....	4	Topographical drawing, <sup>2</sup> 0-0-0-3.....	3
Military training.....	6	Military training.....	6
Total.....	53	Total.....	53

<sup>1</sup> The numbers given after the courses represent the clock hours in the following order: Recitation, preparation, lecture, laboratory, followed by total.

<sup>2</sup> Shop taken in past summer.

CHEMICAL ENGINEERS.

	Hours per week.
Calculus, 4-8-0-0.....	12
Physics, 2-4-0-2.....	8
Chemistry, 3-6-0-12.....	21
Mechanics, 2-4-0-0.....	6
Military training.....	6
Total.....	53

War issues for this class were to be given in the fifth and sixth terms.

The work to be done was considered as of the fifth term for men who had been at the institute for two years, or four terms, and who were taking the fifth term at this time.

CIVIL ENGINEERS.

	Hours per week.
Physics, 2-4-0-4.....	10
Mechanics, 5-10-0-0.....	15
Highways, 1-2-1-0.....	4
Topographical drawing, 0-0-0-1.....	1
Mineralogy and geology, 2-4-8-0.....	8
Railroad engineering, 3-6-0-0.....	9
Military training.....	6
Total.....	53

ELECTRICAL ENGINEERS.

	Hours per week.
Elements of electrical engineering and direct current 5-10-0-0.....	15
Electrical engineering laboratory, 1-1-0-8.....	8
Thermodynamics, 3-6-1-0.....	9
Mechanics, 5-10-0-0.....	16
Military training.....	6
Total.....	53

MECHANICAL ENGINEERING.

Thermodynamics, 3-6-0-0.....	9
Boilers, 2-4-0-1.....	7
Electrical engineering, 3-6-1-0.....	10
Mechanics, 5-10-0-0.....	15
Mechanical laboratory, 0-0-0-6.....	6
Military training.....	6
Total.....	53

CHEMICAL ENGINEERS.

Mechanics, 5-10-0-0.....	15
Electrical engineering, 3-6-1-0.....	10
Chemistry, organic, 3-6-0-10.....	19
Electrical engineering laboratory, 0-0-0-3.....	3
Military training.....	6
Total.....	53

The work done by men who had been at the institute for three and one-half years, since the first term of the senior year had been given during the spring and summer of 1918 and were therefore taking the eighth term at the institute, was arranged to complete the regular institute course during the term which ended January 9, 1919, at which time a proposed commencement would take place. The work during the summer included the subjects of the regular course to such an extent that the number of hours per week required for students on the Students' Army Training Corps basis ran from 27½ to 47½ hours per week. This included study periods. The courses given were the theoretical subjects of the senior year of the institute curriculum.

The committee schedules were issued in many cases after the regular time of opening for the technical institutions, and from the middle of September to the 1st of October students were being inducted into the corps.

On October 1, 1918, the United States Army training detachments which were established at educational institutions by the Committee on Education and Special Training were merged with the Students' Army Training Corps, as this date was set for the formal mobilization of this corps. At this time, at more than 400 colleges and universities throughout the United States, over 150,000 young men became members of the Army or Navy of the United States.

On September 17, 1918, orders were issued to the mobilization officers at various recruiting stations permitting students subject to draft to enroll as members of the naval section of the Students' Army Training Corps at institutions at which naval units were established. At various institutions throughout the country a limited number of men were allowed to enter the naval units.

Following the signing of the armistice, orders were issued to demobilize the Students' Army Training Corps, and this began about the first of December, demobilization being completed about December 21.

This experiment covered a period of 12 weeks and completed the first term of the Student's Army Training Corps. It was necessary for each school to keep records of the scholastic work of the students on the percentage basis of 100. The committee requested monthly records of grades to be sent to them for the purpose of furnishing necessary information regarding various members of the corps. The military records were kept by the personnel officer. The work of each term of 12 weeks was to have been followed by a furlough of one week, and from the records made by members of the corps their continuation was to have been determined.

The work of the Students' Army Training Corps was in general far from satisfactory to the college administrators, largely because the relations between the military commanders and the educational authorities were not fully adjusted. The demand for men to be used for military duty and for kitchen police prevented many students from properly pursuing their studies, and in many cases the time taken for drill and guard duty prevented students from obtaining proper educational training. The period covered by this experience, however, was the period of an entirely new experiment, and the unforeseen difficulties had not been overcome by the time the experiment was concluded. It was the belief of many that, had the Students' Army Training Corps been continued for a longer period, these difficulties could have been rectified and the training made successful.

From a study of the courses listed above, it will be evident that with proper administration the four courses in engineering would have given training sufficient to produce able engineers, considering that this training was planned for intensive study during a critical period of the life of the nation.

#### LATER DEVELOPMENTS IN ENGINEERING EDUCATION.

The period covered by the years 1919 and 1920 is marked by few changes in the curricula of the engineering schools; some of these changes have been in progress for five or six years, some have been brought about by new demands, and some by new laws. Very few schools report changes due to war experiences or to the Mann report, mentioned in the Biennial Survey of Education, 1916-1918, U. S. Bureau of Education, Vol. I, page 100.

The war experiences of the schools of engineering are so recent, and in many cases were so unsatisfactory, that it is difficult to obtain any constructive suggestions from these experiences. Of the replies received from those in charge of engineering schools, only one states that the war experience gave suggestive matter. This suggestion was the value of supervised study. The author of this reply believes that great value can be derived and should be accomplished by supervised study. To the writer of this report the plan of supervised study was welcomed as a method of increasing the study time of the students, but when this was instituted it was found that with those unaccustomed to study in large rooms with a number of persons present the method produced poor results. The psychological effect of restricted activity and uniform study time of definite duration was bad. The results of this method were not good, and there was much complaint from the students.

The methods used for the Students' Army Training Corps were revolutionary in that old values were absolutely abandoned for the time being, and many thought that the engineering curricula might be changed at the conclusion of the war. This did not occur, for the unhappy experiences of the Students' Army Training Corps days made all anxious to return to prewar conditions. This experience was unfortunate in that it was of such short duration that there was nothing in the three months of operation to correct the evils which had developed, and, as said before, many believe that had the Students' Army Training Corps been continued for a year with war incentives for work, a different result could have been expected.

The experiment did prove the value of an incentive for work, an impelling motive, and in this post-war period courses for orientation of the young engineer have been

introduced, and "motivation" is a new term, which indicates the influence of such courses on the work of the engineering student. The war experience has also shown to many that courses of study may be changed without great difficulty, and it may be with advantage.

The various replies that have been received regarding the effect of the Mann report have indicated in most cases that the report has had little influence. A few have used the reports as a basis for changes in the curriculum, and others have made changes which are recommended in the report, but the consideration of these antedated the report, and were due to the developments of educational methods or the demands of the times. Many of these changes have been advocated and discussed at the meetings of the Society for the Promotion of Engineering Education. In many institutions the report has received careful study by faculty and officers.

To help the Nation at the critical period of the war, many institutions graduated the classes in engineering at an early day by utilizing Saturdays for class work, and in this way men were graduated in February and May, 1918, in place of June, 1918.

In some institutions, before the establishment of or plans for the Students' Army Training Corps were made, instruction was given during the summer of 1918, and thus they were enabled to graduate the class of 1919 in December, 1918. The armistice of November, 1918, made any further speeding up of work unnecessary; and after the graduation in December, 1918, or January, 1919, and the demobilization of the Students' Army Training Corps, work was resumed on almost normal schedules. The changes brought about by the Students' Army Training Corps work of the first term made the studies in January of such a nature that the regular schedule could be resumed at the beginning of the second term in February, 1919.

The period 1918-1920 marks a new era of increased enrollment in the engineering schools. The enrollment of September, 1918, in the Students' Army Training Corps, was large. This was due to many causes. In the first place the Government agreed to send eligible young men to college and to pay their expenses, including tuition, board, room rent, and clothing, as well as to give them the pay of regular soldiers. Besides this, the Selective Draft Law made it impossible for one of draft age to get an education in any other manner, and many men wanted to serve their country in this way. It is possible, too, that some who were eligible took advantage of the Students' Army Training Corps to avoid active fighting service.

On the demobilization of the Students' Army Training Corps a number of men left, but after the demobilization of the Army many other men returned for the second term in the spring of 1919, so that the second term enrollment amounted to 75 per cent of the enrollment of the first term.

In the fall of 1919 the enrollment of most engineering schools was even larger than that during the Students' Army Training Corps period, and this large enrollment was continued or exceeded in the fall of 1920, and that of 1920 by the still larger enrollment of 1921.

The large enrollments during these years have been due to the return of many who had interrupted their studies early in the war to unite with arms of our own service or those of our allies; to the return of those who were drafted; to the fact that the war interrupted the education of many who would have entered the engineering schools during the period of the war, and finally to the fact that many students or parents had been placed in such a financial condition, because of the high wages paid to artisans, that certain young men were able to pay the cost of higher education. In addition, the value of college education was demonstrated by the success of the college trained men during the war in the service and the industries.

The showing made by men trained in engineering during this critical period indicated to many the value of such education, and it is believed that this large enrollment will be maintained unless business depression continues for a long time. The demand for men trained in engineering for executive positions in the industries also indicates that this enrollment will continue.

There are several tendencies of this period which are indicated by a study of the college catalogues and of the replies to inquiries. These tendencies, although more evident at this time, have been gradually developing, and in some cases they have been evident for years.

There is some indication that more special courses are desired, such as compressed-air engineering, industrial engineering, heating and ventilating engineering; but there is a strong current of feeling that we should develop men fundamentally and broadly and leave the specialties to be acquired after graduation. Thus at the State University of Iowa the course of the first three years in engineering is common to all engineers, and only two-thirds of the work of the various branches of engineering in the senior year is different. Others report two years in common, and many report one year in common.

There is a tendency to introduce engineering courses of a general nature in the freshman year for the purpose of orientation, although this has been the avowed practice of many for years. A number of institutions have introduced these courses, and in some cases the course takes the form of a series of lectures by heads of the various engineering departments given to all students, while in others special courses are given in each of the departments of engineering. These institutions feel the necessity of giving the student a motive for work by arousing interest in the activities of the engineer, the study of which must of necessity come after the preparatory years in fundamental subjects.

In many engineering schools the subjects of citizenship, economics, sociology, bookkeeping, shop management, business administration, finance, and law are being added to the curriculum by the exclusion of certain engineering subjects. The engineer is now playing more of a part in administration and the management of plants. For this reason these courses are required. The courses omitted are those of a special nature, which may therefore be properly taken up by the graduate in connection with his technical work. The sciences dealing with the fundamentals of human relationships are as necessary as the fundamentals of engineering in the world in which the engineer must work to-day.

In addition to adding these subjects in a greater or lesser degree, some institutions have offered courses in administrative engineering, as at Sheffield Scientific School of Yale University; in administrative science, as at the University of Kansas; and in an administrative option, differing in the last two years from a technical option, as at Union College in civil engineering; and others have offered courses in commercial mechanical engineering or commercial electrical engineering, as at the State College of Washington.

The courses in industrial engineering established at certain engineering schools are being continued, while at Columbia and at the University of New Hampshire industrial engineering has just been established. At some institutions special intensive summer courses in the industries are given to engineers who are engaged in industrial engineering.

Certain schools of engineering, such as that of the University of Pennsylvania, are giving special spring courses in highway engineering to train graduate engineers in road building and economics. The great wave of service by the engineer is entering our schools in their desire to render service to the graduate needing further training after entering practice.

The success obtained from certain problem courses during the intensive Army training period, and the belief of some educators even before the war, have united to cause the introduction of courses in engineering by which the teaching is done through problems. At Lafayette College freshmen during their first term are given problems connecting mathematics and engineering. At other institutions this kind of work is applied to the subjects of the later years, and as a result of five years of

investigation the engineering school of Tufts College has made a departure from the usual curricula of engineering schools, the aim of which is:

- (1) To present a survey or perspective of a chosen field of engineering previous to a detailed study of fundamentals.
- (2) To coordinate theory and practice by using projects of a distinctively engineering character involving theory.
- (3) To reduce the number of subjects studied at one time, while intensifying the work in these subjects.
- (4) To rate the student by observation on his character as well as by the quality and quantity of the prescribed task.

To accomplish these ends, there is given in the freshman year the so-called main introductory course in connection with mathematics, English, and drawing. The main course consists in the study of four projects for the civil engineers and four projects in common for the mechanical engineers and electrical engineers.

During the first year of this new method the projects for the civil engineers were:

First. The study of a wooden garage.

Second. The study of a steel garage.

Third. The study of a small highway bridge.

Fourth. The layout and survey of an underground tunnel.

The projects for the mechanical and electrical engineers were:

First. The measurement of power developed and delivered by a steam engine.

Second. The dismantling, reassembling, and operation of various types of automobiles.

Third. The distribution of potential along lighting circuits.

Fourth. The study of the operation of batteries.

The projects use three laboratory periods and three recitation periods a week for the whole freshman year, and in this time laboratory work, drawing, surveying, graphics, handbooks, sketching, elementary mechanics, kinematics, steam engineering, and electrical instruments were used as needed, and where possible the work was coordinated with textbook assignments.

This introductory course increased the interest shown by the student and made him more observant. It reacted on the student in helping him in the English work of the freshman year in giving him material on which he could write.

In the upper class the endeavor is to cut down the number of required subjects to five. This was done by combining certain related courses into one course. The outline of the course for each term in each year is given below:

FIRST YEAR.		THIRD YEAR.	
	Hours per week.		Hours per week.
Main introductory course.....	12	Departmental courses.....	18
Mathematics.....	9	Applied mechanics.....	6
Graphics.....	7	Physics.....	6
English.....	6	Elective.....	6
Total.....	34	Total.....	36
SECOND YEAR.		FOURTH YEAR.	
Department courses.....	12	Engineering economics and business law.....	6
Two supplemental courses.....	14	Departmental courses and electives.....	30
Mathematics and mechanics.....	6	Total.....	36
Electives.....	4		
Total.....	36		

In the application of the problem method some institutions feel that their lack of success has been due to the lack of maturity of the students. There can be little doubt that the problem method may excite interest and aid in the later theoretical study, but it may also be said that previous theoretical study will lead to greater facility in the solution of problems.

In languages there is a tendency to extend the work in English and reduce or eliminate foreign languages. Training in public speaking and debate are required by some.

The lack in English is felt for the same reason that we feel the lack of training in the subjects dealing with human relations. As the engineer has to deal with men to a greater degree, he must know how to transmit his thoughts in words as well as by drawings.

There is a slight indication that more physical exercise is to be demanded in our schools. This probably is an indirect result of war experience, when it was found that so many of our men were not physically fitted for effective service.

During the last 5 or 10 years there has been a tendency to divide the year so as to form quarterly periods, using the summer quarter for the removal of conditions and for the graduate or undergraduate work of public school teachers. This meant that the regular courses were given in three quarters. The reports from some institutions indicate that a return will be made to the customary two-semester plan, although at the Southern California Institute of Technology the two-semester work has been changed to three terms.

The design courses, which are an important part of some curricula, have been dropped from the curriculum of the University of Oklahoma.

One of the recent changes in engineering education has been the extension of the school of engineering at Princeton University in 1921 to include undergraduate courses in civil engineering, electrical engineering, mechanical engineering, chemical engineering, and mining engineering, as well as a graduate year for the first four of these courses.

The plan has been under consideration for a number of years, and the desire has been to utilize the facilities of the university for the general education of engineers with broad vision and to give the necessary technical work to prepare the graduate for the profession. The aim has been to limit the technical work to the fundamentals of engineering, covering sufficient preparation to make the graduate of the four-year course able to enter engineering as an assistant, leaving to a graduate year the many special courses now included in the four-year engineering courses.

The preliminary schedule of studies for these courses shows the following average figures:

	Per cent.
Science.....	23
Mathematics.....	11
English and foreign language.....	15
Sociology, economics, history, and electives.....	18
Engineering.....	33
Total.....	100

The graduate year leading to an engineering degree is to consist of engineering, economics, and research. The four-year course will lead to a bachelor's degree.

The cooperative system of engineering education used for a number of years at various institutions has been introduced into the electrical engineering department of the Massachusetts Institute of Technology. In this newest cooperative plan of study the aim has been to give all practical training in one manufacturing institution, the General Electric Co., at Lynn, Mass.

The first two years of the course are similar to the first two years of the regular four-year course, and then during the summer of the second year the entire cooperative class is sent to the General Electric Co., at Lynn, Mass., to begin their practical training. At the end of this summer period of 13 weeks the class is divided into halves, and one half continues at the works for 13 weeks while the other half returns to the institute for 11 weeks of instruction to be followed by a 2 weeks' vacation to complete the 13 weeks' period. The halves now change places, one section returning to the institute for its 11 weeks of instruction and 2 weeks of vacation and the other going to the shops for 13 weeks of practical work. This is continued until the expira-

tion of two and one-half years, the student having had work in the factory for 18 months and 5 terms of 11 weeks' actual instruction at the institute. The whole class spends the last period at the institute. Interpreting this into standard college years of about 33 weeks, the student has completed four college years at the institute and one and one-half actual years in practical work and some theory at the shop. At the end of this period the successful student receives the degree of B. S. as of the previous year and the degree of M. S.

The work in the shop is so arranged that the student works 48 hours per week in shop or office, 4 hours in lectures or recitations, and 6 hours in study and preparation. Of the 4 hours mentioned, 1 hour is devoted to a lecture by one of the shop superintendents and 3 hours are given to recitations in electricity and English. This requires 58 hours per week and gives the student three week-day evenings, Saturday afternoon, and all of Sunday as free time, and permits him to do all required work by 9.30 on the other three evenings.

The period of 11 weeks at the institute is such that the institute courses can be given without any disarrangement of other work, as the periods correspond with institute terms. The theoretic studies include advanced subjects, and in the last year are included research and creative design at the institute and experience in the research laboratories and in the engineering and manufacturing offices at the factory.

The shopwork is under the direction of representatives of the cooperating company and the institute, and the recitations in theoretical work during the shop period are held by members of the institute faculty.

The principal differences between this cooperative course and those previously given are stated by Prof. W. H. Timbie as follows:

First. Length of periods for shop and college. This has been thought advisable to permit the student to become familiar with men, methods, materials, and spirit of the department in which the period is spent, although in some cases the student may be placed in several departments during one period. The length of period also reduces the number of changes to 12.

Second. The recognition by the cooperating company that for three years the student is in its plant for the purpose of being educated and trained as a high-grade electrical engineer. There is no attempt to make student labor of value to the company per se, but the work is so arranged that the student may learn manufacturing methods and the best relations of labor, machinery, and materials for proper production. Shifts are made as soon as knowledge of the detail of a department is attained by a student.

Third. A continuity of studies of theoretical and humanistic subjects. This work is carried on at the institute and at Lynn.

Fourth. Required collateral reading. This is done at the Thompson Club, at which the students live together while at Lynn. Here books from the institute library and Lynn Public Library are found. The books permit reading outside the prescribed courses.

Fifth. Intense spirit of loyalty inculcated in members of this course to one another, to the institute, and to the cooperating company.

Sixth. The continuation of the work for three years in one company. Of course the magnitude of the plant of the General Electrical Co. at Lynn makes this cooperative course of great value in that the student will be brought in contact with most manufacturing and business methods in connection with the production of electrical apparatus. The practical training deemed necessary can be obtained with one company.

Seventh. The unusual amount of theoretical work, so that the master's degree can be given at the end of five years.

This cooperative work, as that conducted by Cincinnati, Pittsburgh, Akron, and Massachusetts, is applied to a very limited degree in other institutions. Thus



Yale requires a limited amount of summer work, and electrical engineers at Rensselaer may substitute eight weeks of work in an approved plant for the second shop period of four weeks at the institute. Johns Hopkins requires six months of industrial work. At Antioch College summer work as well as term work in the industries is encouraged for the purpose of self-support as well as to train the student in practical details of the profession for which he is preparing. The University of Maine is planning to require work in industrial plants during two summers.

One other trend remains to be mentioned. In a number of institutions, civics, citizenship, or United States history has been added to the engineering curriculum. The war probably demonstrated the advisability of such training; and, moreover, there is a desire in all educational institutions to prepare men to take an interest and an active part in civic affairs as well as to fit them for specific work.

The Smith-Hughes Act, approved by the President February 22, 1917, appropriates funds amounting in 1926 to a yearly sum of \$6,000,000 for the purpose of cooperating with the States in providing instruction in agricultural, trade, home economics, and industrial subjects, and in preparing teachers of vocational branches of study on condition that the States appropriate equal sums. The act divides one half of the fund among the States in proportion to the ratio of their rural inhabitants to the total rural inhabitants of the United States for the salaries of agricultural teachers, supervisors, or directors, and the other half in proportion to the ratio of their urban inhabitants to those of the United States for the salaries of teachers, supervisors, and directors of trade, home economics, and industrial subjects. Another appropriation amounting to \$1,000,000 annually is divided in proportion to the total population of the States for the purpose of preparing teachers.

In carrying out this act a number of the State schools of engineering are offering courses of vocational training. Some of these courses are given in the engineering schools; others are given in the department of home economics, agriculture, or education. The work has been so recent that many institutions have not arranged these courses completely. The following quotations will give some idea of the present condition of the courses in engineering organized to meet the requirements of the Smith-Hughes Act:

#### WEST VIRGINIA UNIVERSITY, MORGANTOWN, W. VA.

*Undergraduate curriculum in industrial education, leading to the degree of bachelor of science.*—The object of this course is to prepare young men and women to teach vocational subjects and to supervise vocational work in connection with the administration of the Smith-Hughes Act. This is a new course, and the exact requirements have not been definitely fixed. A total of 128 semester hours will be required for graduation, which must include 10 hours in English, 10 hours in mathematics, a thorough knowledge of one or more trades, 4 hours in mechanical drawing, and 10 hours of vocational industrial education.

#### UNIVERSITY OF WISCONSIN, MADISON, WIS.

*Smith-Hughes courses for those who desire to teach trades and industry or the related subjects as prescribed by State and Federal laws.*—The department of manual arts will administer courses in accordance with State and National prescription in the training of teachers of trade and industry. At different times in the past the department has been instrumental in organizing special groups of mechanics in order to assist them, by means of short courses, to prepare for teaching in Wisconsin continuation schools or other vocational or trade schools. Under the new organization the department will, if possible, organize similar classes to be given instruction in accordance with the provisions of the Smith-Hughes law and those for the Wisconsin State Board of Vocational Education.

For several years the University of Wisconsin, through the agency of the department of manual arts acting for and with the extension division of the university, has conducted evening courses of study in Milwaukee, Wis., for tradesmen preparing to teach industrial subjects. The department is prepared to continue this work, to modify it

to conform to Smith-Hughes requirements, and to assist in the organization and conduct of similar instructional work in other Wisconsin centers. In doing this it will not seek to set up an independent organization, but will endeavor to cooperate in any way possible with local agencies, the Wisconsin State Board of Vocational Education, and the Federal Board of Vocational Education.

A registrant for courses given under the heading of "Vocational courses for teachers of trade and industry" shall be admitted as a special student. Upon the completion of any unit of work or prescribed special course, he shall receive a certificate specifying his accomplishment.

#### UNIVERSITY OF TEXAS, COLLEGE STATION, TEX.

*Course in industrial education.*—The course in industrial education has for its main purpose the preparation of teachers of related subjects as prescribed for industrial education under the Smith-Hughes Act. Graduates of this course will be prepared not only to teach related subjects but to teach the regular shopwork ordinarily given in the high schools of the State, to teach shopwork under the Smith-Hughes Act in schools of cities having a population of less than 25,000, and to direct or supervise industrial education in large city school systems. The course requires contact with a wide range of trades through its shopwork and a liberal education in science, mathematics, history, English, etc. Thorough preparation in the art of teaching and supervising is afforded. The wide range of electives permits the student to specialize in some trade, or to do more extensive work in a wide field.

The State plans for requirements of teachers of related subjects in classes using Federal funds under the provisions of the Smith-Hughes Act which specify that the teacher must have had at least 880 hours of experience in at least two trades. This is to insure adequate contact with shops operated on a commercial basis. Students in this course are expected to get this experience through summer work following the sophomore year and the junior year. The department of vocational teaching will assist in arranging for this work.

#### BUSINESS ADMINISTRATION.

A course in business engineering has been offered at the Iowa State College. In this course subjects of various courses in the engineering school have been united with administrative courses for application to business. The college makes the following statement:

Large corporations, contracting firms, municipalities, and all employers of technically trained college men are showing an increasing tendency to transfer such men as have made successes in strictly engineering lines into positions of magnitude and trust requiring knowledge of economic relations and business principles. It is true that the engineering graduate has the ambition to own and manage a business. Many men with the training secured in our engineering schools, combined with the principles of economics and rules of business which they have had to acquire slowly, are meeting with the greatest success in positions which require the highest type of business training and qualifications and a minimum of engineering experience.

From such employers of technically trained men and from engineering graduates now in business for themselves has arisen a demand that the engineering schools offer studies in the fundamental principles of business, supplemented with advanced work along lines closely allied with engineering industries. The engineering schools of the country have felt this demand, and many are meeting it in various ways. The problem might be solved most easily by increasing our engineering courses from four to five years, by requiring certain studies related to business during the last two years, and by giving opportunity for free electives. Under present conditions it seems desirable that the studies relating to the fundamentals of business be offered in the regular four-year course.

The intimate relation which must exist between engineering and business is not a new idea at this college. The engineering courses have been requiring or offering as electives many studies bearing directly or indirectly on business relations. The number of such studies and the quality of the work offered are continually being increased and improved. It is believed that there should be no weakening of the essentially technical and engineering side of the four-year courses. It is probable that the marked success with which many men with engineering training are filling business positions is due to personality and opportunity combined with habits of logical and independent thinking acquired in large part while completing an engineering college course and supplemented by later experience.

The subjects of this course include the following:

*Architectural engineering:* Elements of contracting.

*Civil engineering:* Estimating and cost keeping, engineering reports, professional practice, railway operation and administration.

*Economic science:* Money and banking, public finance, American labor, distribution of wealth, economics for engineers, accounting, business law, rural sociology.

*Engineering:* Specifications and contracts, history of engineering.

*English:* Main elements of composition, exposition, narration and description, argumentation.

*History:* Industrial history of the United States; history of labor in the United States; financial history of the United States; history of foreign relations of the United States; American Government, municipal government.

*Agricultural journalism:* Beginning technical journalism; feature writing for technical journals.

*Mathematics:* Statistical method of interpreting experimental data.

*Mechanical engineering:* Power plant engineering, industrial engineering, industrial organization, scientific management.

*Mining engineering:* Mining engineering, mine administration, and mining law.

*Public speaking:* Extempore speech, debating, advanced public speaking.

### JUNIOR COLLEGE.

During the last few years the development of the junior college in connection with the high schools of a number of cities, the division of the work at the university into an upper and lower division and also to give engineering in two years to graduates of colleges of arts and sciences, has caused some engineering schools to rearrange their curricula so that with a little extra work men with preparation can graduate with two years of engineering work. The junior college and its many advantages have been discussed in the Report of the United States Commissioner of Education for the year 1920. The division of university work into upper and lower divisions has been practiced for many years as at Chicago, it being recognized by others that the work of the first two years of most colleges and schools is a continuation of high-school work, and as such it is distinct from the work of the two latter years. The recognition of this has made possible the acceptance of work done in postgraduate high-school courses or junior colleges.

### RÉSUMÉ.

To give in a brief form the progress of engineering education during 1918-1921, it may be stated that during this period there has been manifest a greater desire to stress fundamental studies to the exclusion or removal of certain applied studies, an elimination of modern language by some and an increase of English, an increase in the study of economics, history, civics, and business methods, an inclusion in the early years of motivating courses, a wider use of the problem method of teaching, and finally a desire to decrease the number of courses by the grouping together of short courses.

### DATA FROM REPLIES.

The following digest of replies gives the data for the foregoing report.

*Antioch College, Yellow Springs, Ohio.*—The reorganization program for the college includes cooperative work in all branches of study. The trustees of Antioch College have determined to reorganize along the following lines:

1. Student self-support by a division of time between college study and remunerative work, the college program being arranged accordingly.

2. A combination of practical experience with academic study, preferably in the calling for which the student is preparing himself.

3. Allowance of credit for actual accomplishment and not for "clock hours" spent in any given subject. (It is estimated that the average student will require 6 years to complete a course of study requiring full time for 4 years.)

4. The college will offer liberal arts courses and a limited number of technical courses. In the belief that the best results can be secured by a comparatively small faculty of high-grade men and women, the number of regular liberal arts courses will be limited to about 80, which is less than half the number usually offered in small colleges.

5. Except for students who show marked ability in any department, liberal arts courses will deal only with the fundamentals of their subjects. For students who do show such ability, autonomous courses will be provided. That is, for advanced work, well-considered courses will be offered, with library and laboratory facilities, and with occasional access to the heads of departments or other competent authorities for advice. Thereupon the student will carry the advanced work in the manner of a seminar.

6. There must be coordination between different courses, so that the college will be a synthetic unit and not an aggregation of unrelated departments each bidding for the students' time and interest.

7. A limited number of technical courses will be offered. A technical course must include the fundamentals of a liberal arts education, as it is the aim to make citizens as well as technicians. These courses will aim to develop general competency rather than highly specialized technique, and to prepare men and women for callings for which adequate preparation is not now being given in colleges and universities. They will aim to make men directors of industry rather than employees working under detailed directions.

8. The college will aim to eliminate the traditional cleavage between cultural standards and practical standards and to make practical life for its students a medium of expression for such cultural standards and ideals.

9. Physical fitness is a primary condition to happiness and success. Students will be required to care for their physical condition in order to remain in the institution.

10. The final measure of accomplishment will be the success attained in turning out students whose preparation has laid the basis for productive service and whose primary aim is service to their communities and to their times. No paper program will accomplish this result, but only the spirit with which the college may be imbued. The chief hope of the trustees is to secure a faculty and a student body that will make this result possible.

*California Institute of Technology, Pasadena, Calif.*—The institute has changed from a two-term to a three-term year. Modern language has been eliminated, being replaced by English, history, current topics, and geology. A new course, physics and engineering, has been introduced.

*Carnegie Institute of Technology, Pittsburgh, Pa.*—No important changes. Discussing return to two semesters from four quarters.

*Case School of Applied Science, Cleveland, Ohio.*—The present day requests for engineers indicate the importance of students using summers for work in industrial plants so as to better understand labor and industrial problems. This work is not required at present, but the requirement is being considered. The experience of the school indicates that preparatory work is not being done as well as it was before the war. A tendency to student organization is more manifest than formerly.

*College of the City of New York, New York, N. Y.*—The school of technology was recently organized. Although contemplated for some time, the war accelerated the inauguration of this new school. The chemical engineering course is such that B. S. is given at the end of four years and Ch. E. at the end of the fifth year.

The freshman year contains public speaking, analytic geometry, calculus, English, a foreign language, chemistry, descriptive geometry, mechanical drawing, American Government, citizenship, physical training, and military training.

For sophomore year: Prose and poetry, declamation, English, history, physics, qualitative analysis, geology, evolution of industry, causes and cures of diseases, defense of health, and military training.

For junior year: Debate, physical laboratory, organic chemistry, philosophy, machine design, qualitative analysis, electrochemistry.

For senior and post senior years the subjects are technical with the exception of courses in debate, business organization, and commerce.

The courses in mechanical engineering, electrical engineering, and civil engineering are the same as the above for the first two years and differ in the technical subjects of the last years. There are small differences in the first two years, but these differences are due to sequence. In all four courses there is training given in history, philosophy, civics, hygiene, and business. Economics is included in certain courses.

The announcement of the school contains the following quotations:

These technical courses as established cover a period of five years. During the first two years the work required consists almost entirely of necessary prescribed collegiate science subjects, the better to prepare and develop the mind of the young student for what is to follow. The third and fourth year subjects taken up are to a very great extent strictly in engineering, but so arranged that the student is upon completion of the fourth year eligible for the degree of bachelor of science.

Then, after an additional or fifth year of purely advanced technical engineering subjects, he receives the degree of chemical, civil, electrical, or mechanical engineer.

In each instance the ground covered by the course has been carefully studied and thought out by a corps of well-equipped technical and practical instructors, each one thoroughly conversant with his particular branch. The purpose is to make the course fundamental rather than intensive along any particular line.

The collegiate work is largely cultural in character, in order to secure in the education of the engineer a much broader range than if confined only to the engineering field.

Upon completion of the entire course the graduate is thereby better equipped to go into the business world and meet the problems of life; he is better fitted to take his place as an executive with big financial, operating, and construction interests.

Owing to the great development in the industrial world and the rapid advancement of this country as a financial and commercial power, the field of the engineer is much larger than heretofore. There has always been a dearth of men fitted to fill the higher positions; there is at present and will be for a generation to come a considerable demand for trained men in all grades. There is hardly a line of endeavor which does not require the advice, cooperation, and assistance of the engineer.

Many of the engineering subjects are given in the evening session for the benefit of those who are employed during the day. These evening courses are identical with the day work in so far as the scope and thoroughness are concerned. They are meant to meet the needs of those who are engaged during the day but wish to secure a technical education and better their condition.

*Columbia University, New York, N. Y.*—In 1919-20 numerous readjustments took place to accomplish four objects:

1. A better selection of subjects to study.
2. The avoidance of nearly similar courses given similarly for different groups of students.
3. Reduction in number of different subjects of study pursued at the same time.
4. A reasonable total weekly requirement of class, laboratory, and study hours.

The university offers a new course in industrial engineering. This is largely a course in mechanical engineering until at the later end of the course the subjects of organization, management, and business methods are given.

The courses in engineering at Columbia require three years of college work for entrance, and three years are required for completion of the courses.

*Cornell University, Ithaca, N. Y.*—The experiences of the war have been to accent the practical side of vocational training and to reduce to a minimum the training necessary to produce men of specific types. Although a number of special courses in military engineering were requested, the engineering school has only introduced courses in ordnance engineering and signal engineering. The general tendency has been to give broad training to the engineers rather than more special engineering work relating to the particular branch giving its name to the department.

Economics, English, and other general subjects are being added to the engineering courses. All engineering instruction has been combined into one college which will now be known as the college of engineering and will consist of three divisions offering the degrees of civil engineer, mechanical engineer, and electrical engineer. The curriculum will be the same for all students during the freshman year. The civil engineering students will have a slightly different course during the sophomore year from those in the two other departments. At the end of the second year all three departments will be under different schedules.

*University of Dayton, Dayton, Ohio.*—The curriculum provides for ethics, psychology, and logic to succeed or to be taken conjointly with economics.

*University of Florida, Gainesville, Fla.*—All courses are the same for one year and for mechanical engineers and electrical engineers for two years. Selects best men for admission, as capacity is limited. Advocates higher standards rather than expansion.

*State University of Iowa, Iowa City, Iowa.*—Civil, electrical, and mechanical engineers have three years in common, and in senior year one-third of their work is common. The chemical engineering course has been extended to five years. The Students' Army Training Corps made clear the value of supervised study.

*Johns Hopkins University, Baltimore, Md.*—The following changes have been made:

1. Transference of applied mechanics from third year to second year.
2. Introduction of course in general engineering for freshmen. Course is given by various faculties in turn.
3. The increase of the requirement of three months in industrial work to six months.

*University of Kansas, Lawrence, Kans.*—Changes made during the years 1918-1920 have been as follows: Establishment of a complete schedule in engineering and administrative science; a course in elementary economics for all students; elimination of shopwork for civil engineers, and the introduction of elementary geology into the freshman year; the permission of substitution of other work for modern languages; the omission of modern languages for students of the Reserve Officers Training Corps; the introduction of an option for civil engineers and the introduction of a four-year course in architecture.

The university is considering the provision for freshman students who enter with one year of training in algebra and geometry and a further reduction of the modern-language requirement.

*Lafayette College, Easton, Pa.*—The college has made a complete revision of the curricula in civil, electrical, mechanical, and chemical engineering, for the following purposes:

1. To give the freshmen some real engineering problems in their first term, to establish some connection in their minds between their mathematics and actual engineering. These courses were taught by the heads of the engineering departments.
2. To reduce the number of credit hours per week, each credit representing three hours of the student's time, to 17 or 16 if possible.
3. To provide electives for engineering students in the so-called cultural subjects. The greatest number of such credits was required in the civil engineering course, i. e., 18 credits.
4. To reduce the number of subjects studied in any given term to 5 or 6, or less if possible.
5. To introduce the laboratory method of instruction, i. e., problem work in class, so that assistance and corrections may be made immediately by an instructor. These laboratory periods were made three hours in length and introduced into courses in mathematics, mechanics, and materials. These are distinct from experimental laboratory periods.
6. To relieve the pressure on the curriculum by eliminating courses on the applications of engineering and putting more time on fundamentals. For example, such

courses as telephone engineering, aeronautics, advanced structural design, etc., were either omitted or made elective by groups.

These changes, which have been in operation for two years, are now being revised in the light of this experience. Certain courses will be shortened, while others will be extended. There is a tendency to combine a number of shorter courses into one larger course. No modern language is required for engineering students with the exception of those taking chemical engineering.

The electives available for engineering students are American history, government, sociology, labor problems, ethics, applied psychology, and similar subjects.

*Lehigh University, Bethlehem, Pa.*—Scholastic changes of minor character such as might normally be made have been made during the period. These have not been caused by experience during the war.

In February, 1919, a unit of the Reserve Army Training Corps was established, with voluntary enrollment. The work in military science and tactics was made obligatory on all students entering the university.

*Leland Stanford Junior University, Stanford University, Calif.*—The mechanical engineering department gives, during the four years of undergraduate curriculum, a course which is intended to represent common training for five years of work in both mechanical and electrical engineering. Students at the end of four years receive the degree of A. B. in mechanical engineering, following which, after a year of further work along either mechanical or electrical engineering lines, they receive the degree of engineer in mechanical or electrical engineering.

Changes during 1918-1920 have been due to the fact that the first two years of undergraduate work at Stanford constituted a so-called lower division, and it has been necessary to readjust certain courses to care for this type of organization. The rearrangement has the effect of providing a more regular and definite manner for certain general courses, including modern languages, history, literature, and biological science. The university work is arranged so that after four years the student receives the degree of A. B. and the fifth year leads to the degree of engineer.

Courses are given in civil engineering, mining engineering, mechanical engineering, and chemical engineering. Electrical engineering is given as graduate work.

*University of Maine, Orono, Me.*—The faculty is considering requiring work in industrial plants during two summer vacations.

*Michigan Agricultural College, Lansing, Mich.*—New courses introduced with common freshman year for all, 20 per cent differentiation in sophomore year, and slightly more in junior and senior years; 60 per cent of work of all four courses is the same. Former courses were common for two years, with 72 per cent of the entire work of the four courses the same. An optional group of economics, English, French, and Spanish for three hours for senior year is now part of the four courses.

*New Hampshire College, Durham, N. H.*—The college gave courses in engineering and construction. The courses in mechanical and electrical construction have been abolished, and an industrial course given, so that the engineering division offers courses in mechanical, electrical, and chemical engineering, architectural construction, and a four-year industrial course. This latter course requires one year of mathematics and a wide range of electives during the last two years, enabling a student to fit himself to enter the industrial or manufacturing field, to become a sales engineer, or to prepare himself to teach under the Smith-Hughes Act.

*New Mexico State School of Mines, Socorro, N. Mex.*—Desire to eliminate some theoretical work and to substitute practical subjects therefor.

*Norwich University, Northfield, Vt.*—The amount of modern languages has been decreased from two years to one year, while the amount of English has been increased from one year to two years. The work in physical laboratory has been doubled, and the time devoted to theoretical mechanics has been decreased. A course in elements of

mechanism has been added, as well as a short course in business organization and finance.

In the senior year a course has been added in engineering abstracts.

*University of Oklahoma, Norman, Okla.*—A course has been introduced in second-term freshman year in applied engineering. Economics has been extended to include elementary accounting, cost accounting, business organization, management, and business law. Experience during the war has led to elimination of design work for undergraduates.

*Pennsylvania College, Gettysburg, Pa.*—Changes of a minor nature have been made. War experiences were not long enough to suggest any changes. The problem method as used at Camp Humphreys has been applied with only moderate success, owing to the younger age of the students at the college compared with those in the Army. There was a lack of effort on the part of most of the students. To obtain moderate success a large number of instructors would be necessary.

*Rensselaer Polytechnic Institute, Troy, N. Y.*—Extension of English to a course in second term senior year, including report writing, correspondence, and technical papers; minor readjustments of courses to care for larger enrollment with present laboratory equipment. Changes have made the load upon laboratories more uniform, permitting the same effective work to be done with a larger number of students.

*Rhode Island State College, Kingston, R. I.*—Changes of minor importance have been made, resulting from an effort to produce harmony in various phases of the work of the institution. Certain modern language has been omitted from the sophomore year for additional work in chemistry by the chemical engineers.

Certain condensation of courses in electrical engineering have been made to introduce mechanisms and making the mechanical and electrical engineering courses the same to the beginning of the junior year.

*Rutgers College, New Brunswick, N. J.*—No particular changes have been made in the course of instruction. Certain changes will probably be made on the appointment of a new dean.

*University of Santa Clara, Santa Clara, Calif.*—A simplification of courses as much as possible, avoiding all specialization in a four-year course, emphasizing English, and more thorough grounding in fundamentals.

*Sheffield Scientific School of Yale University, New Haven, Conn.*—The courses in Sheffield scientific school of Yale University have been changed to four-year courses, with the degree of B. S., in place of the three-year course leading to the degree of Ph. B. The various engineering courses have been made to include general subject of history and English of about 13 per cent; science subjects of chemistry, physics and mathematics of 31 per cent; engineering, including drawing, laboratory work, as well as theory, 46 per cent; administrative subjects, including economics, accounting, and management, 8 per cent; electives in engineering and administrative work, 2 per cent. Although the figures above are for the mechanical engineering course, the civil and electrical engineering courses correspond with this quite closely. The school has established a course in administrative engineering, with 13 per cent of the work in general subjects, 24 per cent in science, 28 per cent in engineering, 21 per cent in administration work, and 14 per cent in electives.

*South Dakota State School of Mines, Rapid City, S. Dak.*—The school has been enlarged to graduate civil engineers and electrical engineers, in addition to those courses which have been given for years in mining engineering and metallurgical engineering. The first engineering degrees are given at the end of a four-year course; and advanced degrees are given not earlier than two years after graduation in practice or after one year of graduate study. Some of the courses have been rearranged to give courses in business management.

*University of South Dakota, Vermillion, S. Dak.*—Course in engineering technology for all freshmen. The work is given by C. E. department for first term, M. E. depart-



ment second term, and E. E. department third term. Three terms are to be changed to two semesters.

*Stevens Institute of Technology, Hoboken, N. J.*—No changes to report.

*Union College, Schenectady, N. Y.*—The course in civil engineering has been revised by giving two options, one known as the technical option, the other as the administrative option. These options are the same for the first two years, which include, with the scientific and engineering subjects, foreign language, English, American history, and public speaking. In the junior and senior years the administrative option contains the subjects of psychology and European history in place of reinforced concrete construction. Both options contain business administration, including economics, accounting, business law, finance, banking, and contracts and specifications.

The administrative option contains important subjects in civil, mechanical, and electrical engineering, and has an unusually large percentage of business administration and cultural subjects; 26 per cent of the course is devoted to science, 39 per cent to engineering, 10 per cent to business administration, and 25 per cent to cultural subjects.

*Washington University, St. Louis, Mo.*—A readjustment has been made in all curricula.

*State College of Washington, Pullman, Wash.*—Changes have been made to include course in commerce and also to give distinct courses in management engineering, commercial mechanical engineering, and commercial electrical engineering. The courses in civil engineering, mechanical engineering, and electrical engineering have been continued; and in these, special courses in engineering economics have been substituted for special courses in the various curricula. The new courses have been introduced in response to the general trend of public opinion.

*Worcester Polytechnic Institute, Worcester, Mass.*—Nothing to report. The institute gives great importance to industrial management.

#### DATA FROM CATALOGUES.

In addition to the institutions sending letters, certain institutions sent catalogues. From the catalogues received in response to the communication from the Commissioner of Education the following has been obtained:

*University of Akron, Akron, Ohio.*—Five-year cooperative course, patterned after the Cincinnati plan, organized in 1914. Changes made at end of periods of two weeks. Year is composed of 11 months. Holidays of one week at Christmas, one week at Easter, and two weeks at end of summer. Degrees of C. E., M. E., E. E., and B. S. in Manufacturing Production. English and modern languages begin in the third year. Modern languages are continued for three years and English for two years. Economics is given for one year.

*Alabama Polytechnic Institute, Auburn, Ala.*—Common freshman year. English, three years, with English or economics for fourth year; no modern language; history, two years.

*University of Alabama, University, Ala.*—English, one year; no modern language; economics in one year.

*University of Arizona, Tucson, Ariz.*—Two years of English; one year modern language.

*University of Arkansas, Fayetteville, Ark.*—Two years the same for all engineers. English, one year; economics, one-third year.

*Brooklyn Polytechnic Institute, Brooklyn, N. Y.*—English, two years; modern language, two years; history, one year; economics, one-half to one and one-half years. Five years required for chemical engineers.

*Brown University, Providence, R. I.*—One course only in engineering. English, two years; economics, one year; engineering electives and approved electives.

*University of California, Berkeley, Calif.*—No English or foreign language required if preparation is sufficient. Electives.

*Catholic University of America, Washington, D. C.*—English, two years; modern language, philosophy, and economics, each one year.

*University of Cincinnati, Cincinnati, Ohio.*—Four-year theoretical courses and five-year cooperative courses, with alternation between shop and university every two weeks. The latter course has years of 11 months. The first two years of all courses are about the same. English every term. Modern language required for two years in chemical engineering and one year for others. Certain courses require economics, management, and history.

*Clarkson School of Technology, Potsdam, N. Y.*—Three terms to one year. Five terms common to all courses. English, one year; economics, one year; modern language, one year.

*University of Colorado, Boulder, Colo.*—English one and one-third years; no modern language.

*Colorado Agricultural College, Fort Collins, Colo.*—English, one year; no modern language.

*Dartmouth College, Hanover, N. H.*—Two-year course in Thayer School of Civil Engineering after three years of college work. Suggested preparation: One year each in sociology, political science, psychology, civics, and one and one-half years in English and modern language, and two years in economics.

*Des Moines College, Des Moines, Iowa.*—English, public speaking, each one year. Electives from modern languages, English, commercial law, bookkeeping, business efficiency, accounting, and social sciences.

*University of Florida, Gainesville, Fla.*—One year in common. English, two years; economics, one-half year; law, one-half year; sociology, one-half year.

*George Washington University, Washington, D. C.*—One year in common for C. E., M. E., E. E. English one year and modern language one year.

*University of Georgia, Athens, Ga.*—History and English, one year; modern language, two years.

*Georgia School of Technology, Atlanta, Ga.*—One year common to all. English, two and one-half years; modern language, two years; economics, one-half year.

*Harvard University, Cambridge, Mass.*—English one year, or may be credited from preparatory work. Two modern languages which may be offered for admission. Accounting and business administration one year. An elective is allowed in each of the first three years.

*Howard University, Washington, D. C.*—English, one year; modern language, two-thirds year; law and economics, one year.

*University of Idaho, Moscow, Idaho.*—One year common; English, two years; modern language one year for chemical engineers, contracts and specification for other engineers.

*University of Illinois, Urbana, Ill.*—One year English, one year modern language, three to four terms of nontechnical electives.

*Iowa State College, Ames, Iowa.*—English, one and two-thirds years, no modern language; one quarter of specifications and contracts, one quarter of history of engineering, one quarter of engineering economics, one quarter of accounting. A course in business engineering is made up of subjects from the various courses at the college for application in business.

*Kansas State Agricultural College, Manhattan, Kans.*—English, two years; economics, one year; business law, one semester; history, one semester; no modern language.

*Lehigh University, Bethlehem, Pa.*—English, one and one-half years; modern language, one or two years; economics, accounting, law, finance, contracts, each one-half year.

*Lowell Textile School, Lowell, Mass.*—English, one year; modern language, two years; economics, one year; business administration, one year.

*University of Louisiana, Baton Rouge, La.*—English, two years. No modern language.

*University of Maryland, College Park, Md.*—English, three years; modern language, two years; history, one year; economics and law, one year.

*University of Michigan, Ann Arbor, Mich.*—English, one year; modern language and cultural subject, three years; law, one term, options two years.

*Michigan College of Mines, Houghton, Mich.*—English, one and one-half years.

*University of Minnesota, Minneapolis, Minn.*—One year common. English, one year; electives in economics, government, finance, law, accounting.

*University of Missouri, Columbia, Mo.*—One year common. Citizenship, one year; economics, one term; English, one term; no modern language.

*University of Montana, Bozeman, Mont.*—English, two years; economics, one year; specifications and contracts, one-third year. No modern language.

*University of Nebraska, Lincoln, Nebr.*—One year common. English, one year; modern language, one year for civil engineers. A six-year combined academic-engineering course is offered.

*University of Nevada, Reno, Nev.*—English, one year; four terms of electives. No language.

*New Mexico School of Mines, Socorro, N. Mex.*—Two years in common. English, two years; modern language, two years.

*New York University, New York, N. Y.*—English, two years; modern language, two years; economics and industrial history, one year. A course is offered in business and engineering.

*North Carolina State College, West Raleigh, N. C.*—One year in common. English, three years, one year modern language. English, economics, industrial engineering, or modern language, one year.

*University of North Carolina, Chapel Hill, N. C.*—English, one year; modern language, two-thirds year; law, one-third year.

*North Dakota Agricultural College, Fargo, N. Dak.*—English, one and one-third years; history, one-third year; social science, one-third year.

*University of North Dakota, University, N. Dak.*—One year in common. English, one and one-half years; modern language, an elective. Economics, one term for certain courses.

*Northeastern College, Boston, Mass.*—English, one year; no modern language.

*Norwich University, Northfield, Vt.*—English, two years; modern language, one year; law, one year; economics, one year.

*New Mexico College of Agriculture and Mechanic Arts, State College, N. Mex.*—English, one and two-thirds years; modern language, one year; economics, sociology, and business law, one year.

*Ohio State University, Columbus, Ohio.*—One year in common. Modern language one year; English, one year.

*Ohio Northern University, Ada, Ohio.*—English, option; languages, option.

*Oklahoma Agricultural and Mechanical College, Stillwater, Okla.*—One year common. English, one and one-half years; modern language, one year for chemical engineers, electives equivalent to four years; economics, one and one-half years.

*Oregon Agricultural College, Corvallis, Oreg.*—English, one year; public speaking, one-third year; economics, one year.

*Pennsylvania State College, State College, Pa.*—One year common. English, two years; modern language, two years; economics, one year; law, one-half year; history, one-half year; political science, one-half year.

*University of Pennsylvania, Philadelphia, Pa.*—English, two years; modern language two years; law, one year; economics, one-half year for mechanical engineers and electrical engineers.

*University of Pittsburgh, Pittsburgh, Pa.*—Work in four terms of three months each in some engineering industry in the Pittsburgh district is required of every student before graduation. This work is supervised. One year in common. English, one and one-half years; modern language, two years; economics, one and one-half years; philosophy and psychology, one year.

*Polytechnic Institute of Brooklyn, Brooklyn, N. Y.*—English, two years; modern language, two years; history, one year; economics, one-half to one and one-half years. Five years required for chemical engineers.

*Princeton University, Princeton, N. J.*—English, two years; modern language, two years; economics, two years; business methods, one term; electives two years.

*Purdue University, Lafayette, Ind.*—English, one and one-half or two and one-half years; modern language, two or three years; economics, one-half year; history, one-half year; law, one-half year.

*Rose Polytechnic Institute, Terre Haute, Ind.*—English, one and one-half years; modern language, two years; economics, one-half year.

*University of South Carolina, Columbia, S. C.*—English, one year; modern language, one year.

*University of Southern California, Los Angeles, Calif.*—English, one year; law, one-half year; electives, three years.

*University of Tennessee, Knoxville, Tenn.*—Two years in common. English, two years; modern language, two years; law, one-half year.

*Agricultural and Mechanical College of Texas, College Station, Tex.*—One year in common. English, four years; history, one-half year; economics, one-half year.

*Tulane University of Louisiana, New Orleans, La.*—English, one or two years.

*University of Utah, Salt Lake City, Utah.*—Two years in common. English, one-third year. Economics, one-third year, business methods.

*Valparaiso University, Valparaiso, Ind.*—English, one year.

*Vanderbilt University, Nashville, Tenn.*—One year in common. English, one year.

*Villanova College, Villanova, Pa.*—English, two years; modern language, two years; law, one-half year.

*Virginia Polytechnic Institute, Blacksburg, Va.*—English, three years; modern language, three years; economics, one year.

*State College of Washington, Pullman, Wash.*—English, one and one-half years; economics and law, one year. Courses in commercial mechanical engineering and commercial electrical engineering, giving economics, business administration, finances, investments, and contracts.

*Washington and Lee University, Lexington, Va.*—English, one year; modern language, two years.

*West Virginia University, Morgantown, W. Va.*—English, one year; law, one-half year.

*University of Wisconsin, Madison, Wis.*—English, one year; law, one-half year.

*University of Wyoming, Laramie, Wyo.*—One year in common. English, one year; electives, three years.





DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1921, No. 51

# STATISTICS OF NURSE TRAINING SCHOOLS 1919-1920

PREPARED BY THE STATISTICAL DIVISION  
OF THE BUREAU OF EDUCATION

Under the direction of  
**H. R. BONNER**  
*Specialist in Educational Statistics*

[Advance Sheets from the Biennial Survey of Education  
in the United States, 1918-1920]



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SCHOOLS charging a tuition in the first year of the course discontinue such charge after the first year. One school, contrary to the usual rule, specifies a tuition fee for the second and third years only. The tuition the first year ranges from \$7 to \$96, and that for the second





## NURSE TRAINING SCHOOLS, 1919-20.

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This report contains summaries by States, but no detailed statistics of individual schools. Such statistics were published in Bureau of Education Bulletin, 1918, No. 73, and only slight changes have occurred since that document was printed.

Graphic and interpretive treatment of the data in this bulletin will appear in a bulletin to be published later, entitled Statistical Survey of Education for 1919-20, and will eventually be incorporated with this report in the Biennial Survey of Education for 1918-20.

### SCHOOLS IN OUTLYING POSSESSIONS.

Although statistics were requested from nurse training schools in all our outlying possessions, the only reports received from them were from two schools in Porto Rico. The nurse training school of St. Luke's Memorial Hospital, at Ponce, reported 21 nurse pupils, 5 graduates, 60 beds, and 40 patients daily on an average. The minimum age for admission is 16 years, and eighth-grade education is required. The nurses have nine hours of duty daily, and the length of the course offered is three years. The remuneration granted for each year of the course is \$60.

The nurse training school of the Presbyterian Hospital, at San Juan, reported 34 pupils, 7 graduates, 65 beds, and 64 patients on an average. The minimum age for admission is 17 years, and the minimum educational requirement is one year of high-school work. Nine hours of duty are required daily, and the course offered covers a period of three years. The remuneration given to the nurse pupils is \$48, \$72, and \$120 for the first, second, and third years of the course, respectively. The statistics contained in the tables do not include these figures.

### TUITION.

Of the 1,755 nurse training schools reporting, only 46, or 2.6 per cent, charge any tuition whatever. Forty-five of these schools specify a tuition fee for the first year, and 14 charge a fee for the second and the third year. Thus it is seen that 69 per cent of the nurse training schools charging a tuition in the first year of the course discontinue such charge after the first year. One school, contrary to the usual rule, specifies a tuition fee for the second and third years only. The tuition the first year ranges from \$7 to \$96, and that for the second

and third years from \$12 to \$60. The tuition rates, however, are not especially significant, since 29 of the 46 schools charging tuition grant a remuneration also in the first year, and the schools charging a tuition fee in the second and third years grant a remuneration as well, with but a single exception. In the 29 schools giving a remuneration in the first year, and also specifying a tuition fee, all but one grant a remuneration as high or higher than the tuition rate. Consequently, only 18 schools charge a tuition fee in the first year in excess of the remuneration. In the second and third years of the course the remuneration equals or exceeds the tuition fees in all the 14 schools except one. It may be concluded, therefore, that tuition fees when specified are usually offset by an equal or greater remuneration.

TABLE 1.—*Comparative statistics of nurse training schools, 1880-1920.*

Years.	Schools.	Nurse pupils.	Graduates.	Capacity of hospitals (beds).	Average daily number of patients.
1	2	3	4	5	6
1880.....	15	323	157		
1884-85.....	34	793	218		
1890-90.....	35	1,552	471		
1894-95.....	131	3,965	1,498		
1899-1900.....	432	11,164	3,466	84,227	
1904-5.....	862	19,824	5,795	145,506	
1909-10.....	1,129	32,636	8,140	214,597	
1914-15.....	1,509	46,141	11,118	256,325	185,406
1919-20.....	1,755	54,953	14,980	321,619	252,823

<sup>1</sup> Of these schools 180 are affiliated with colleges or universities.

TABLE 2.—*Distribution of nurse training schools according to length of course offered.*

Years in course.	General hospitals.						Hospitals for the insane.			
	1911		1918		1920		1918		1920	
	Schools.	Per cent.	Schools.	Per cent.	Schools.	Per cent.	Schools.	Per cent.	Schools.	Per cent.
1	2	3	4	5	6	7	8	9	10	11
Less than 1 year.....			7	0.5	26	1.5				
1 to 1.9 years.....			16	1.0	18	1.1				
2 to 2.9 years.....	185	26.9	164	10.2	179	10.7	34	42.0	23	26.4
3 to 3.9 years.....	502	72.9	1,416	88.1	1,439	86.5	47	58.0	64	73.6
4 years.....	1	.2	3	.2	3	.2				
Total.....	688	100.0	1,606	100.0	1,665	100.0	81	100.0	87	100.0

<sup>1</sup> Two schools did not report the length of course offered.

<sup>2</sup> One school did not report the length of course offered.

TABLE 3.—*Distribution of nurse training schools according to the educational requirements for admission in 1918 and 1920.*

Requirement for admission.	1918				1920			
	General hospitals.		Hospitals for the insane.		General hospitals.		Hospitals for the insane.	
	Schools.	Per cent.	Schools.	Per cent.	Schools.	Per cent.	Schools.	Per cent.
1	2	3	4	5	6	7	8	9
Eighth grade.....	192	12.1	42	53.8	157	9.6	20	22.7
One year of high school.....	681	42.7	30	38.5	694	42.2	48	54.6
Two years of high school.....	268	16.5	4	5.1	355	21.5	4	4.5
Three years of high school.....	9	.6	2	2.6	7	.4	.....	.....
Complete high school course.....	447	28.1	0	.0	434	26.3	16	18.2
Total.....	1,592	100.0	78	100.0	1,647	100.0	88	100.0

<sup>1</sup> The requirements in 20 other schools do not conform to the classifications given.

TABLE 4.—*Distribution of nurse training schools according to the minimum age requirements for admission.*

Minimum age.	General hospitals.						Hospitals for the insane.			
	1911		1918		1920		1918		1920	
	Schools.	Per cent.	Schools.	Per cent.	Schools.	Per cent.	Schools.	Per cent.	Schools.	Per cent.
1	2	3	4	5	6	7	8	9	10	11
Will admit under 18 years.....	2	0.3	13	0.8	5	0.3	1	1.2	.....	.....
18 years required.....	91	13.2	721	42.9	1,017	61.0	56	69.1	65	73.9
19 years required.....	48	8.9	465	27.6	409	24.5	9	11.2	9	10.2
20 years required.....	241	34.8	316	18.8	147	8.8	8	9.9	8	9.1
21 years required.....	255	36.9	158	9.4	85	5.1	7	8.6	6	6.8
22 years or over.....	155	7.9	9	.5	4	.3	.....	.....	.....	.....
Total.....	692	100.0	1,682	100.0	1,667	100.0	81	100.0	88	100.0

<sup>1</sup> Includes 10 schools not specifying any definite age.

TABLE 5.—*Distribution of nurse training schools according to number of hours of duty required daily.*

Hours of work.	General hospitals.								Hospitals for the insane.			
	1896		1911		1918 .		1920		1918		1920	
	Schools.	Per cent.	Schools.	Per cent.	Schools.	Per cent.	Schools.	Per cent.	Schools.	Per cent.	Schools.	Per cent.
1	2	3	4	5	6	7	8	9	10	11	12	13
Under 8.....					38	2.4	53	3.2	0	0.0	1	1.1
8.....	2	1.8	69	10.4	282	14.4	539	32.3	5	6.4	20	22.7
8½.....	0	0	43	6.5	64	4.0	77	4.6	2	2.6	1	1.1
9.....	11	9.9	239	36.1	434	26.9	474	28.4	5	6.4	5	5.7
9½.....	29	26.2	26	3.9	22	1.4	33	2.0	0	0	0	0
10.....	14	12.6	220	33.2	689	42.7	439	26.3	16	20.5	25	28.4
10½.....	32	28.8	0	0	4	.2	1	.1	3	3.8	3	3.4
11.....	3	2.7	22	3.3	17	1.1	3	.2	2	2.6	2	2.3
11½.....	14	12.6	0	0	0	0	0	0	2	2.6	0	0
12.....	3	2.7	44	6.6	112	6.9	48	2.9	18	23.1	22	25.0
Over 12.....	3	2.7	0	0	0	0	0	0	25	32.0	9	10.3
Total.....	111	100.0	663	100.0	1,612	100.0	1,667	100.0	78	100.0	88	100.0

TABLE 6.—*Distribution of nurse training schools according to remuneration granted (not including schools giving no remuneration).*

## GENERAL HOSPITALS.

Year.	Schools paying less than \$100 per year.				Schools paying \$100 to \$199.				Schools paying \$200 or over.			
	1918		1920		1918		1920		1918		1920	
	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.
1	2	3	4	5	6	7	8	9	10	11	12	13
First year.....	1,176	82.8	826	53.6	238	16.8	625	40.6	5	0.3	90	5.8
Second year.....	894	62.9	542	35.4	517	36.3	856	55.9	12	.8	133	8.7
Third year.....	701	50.7	420	29.1	655	47.5	872	60.4	25	1.8	151	10.5

## HOSPITALS FOR THE INSANE.

Year.	Schools paying less than \$300.				Schools paying \$300 to \$399.				Schools paying \$400 or over.			
	1918		1920		1918		1920		1918		1920	
	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.
First year.....	20	30.8	6	7.6	33	50.8	13	16.5	12	18.4	60	75.9
Second year.....	9	14.5	6	7.8	28	45.2	10	13.0	25	40.3	61	78.2
Third year.....	4	9.3	4	7.6	17	39.5	6	11.3	22	51.2	43	81.1

TABLE 7.—*Distribution of nurse training schools in general hospitals according to capacity (beds) and average number of patients treated daily.*

Capacity of hospital (beds) and average number of patients daily.	Distribution as to capacity.		Distribution as to average number of patients daily.	
	Number of schools.	Per cent of total.	Number of schools.	Per cent of total.
1	2	3	4	5
<b>500 or fewer:</b>				
1-25.....	140	8.41	385	23.50
26-50.....	464	27.88	464	28.44
51-75.....	310	18.63	257	15.74
76-100.....	220	12.22	180	11.04
101-125.....	130	7.81	96	5.89
126-150.....	123	7.39	84	5.14
151-175.....	48	2.88	24	1.47
176-200.....	66	3.96	39	2.39
201-225.....	24	1.44	13	.79
226-250.....	22	1.32	21	1.29
251-275.....	10	.60	10	.61
276-300.....	31	1.86	10	.61
301-325.....	8	.48	7	.43
326-350.....	14	.84	8	.49
351-375.....	4	.24	5	.31
376-400.....	8	.48	2	.12
401-425.....	2	.12	2	.12
426-450.....	9	.54	5	.31
451-475.....	2	.12	2	.12
476-500.....	3	.18	3	.18
Total.....	1,638	98.44	1,617	99.08
<b>Over 500:</b>				
501-1,000.....	16	0.96	11	0.68
1,001-1,500.....	6	.36	3	.18
1,501 and over.....	4	.24	1	.06
Total.....	26	1.56	15	.92
Grand total.....	<sup>1</sup> 1,664	100.00	<sup>2</sup> 1,632	100.00

<sup>1</sup> Three schools not reporting.<sup>2</sup> Thirty-five schools not reporting.

TABLE 8.—*Distribution of nurse training schools in hospitals for the insane according to capacity (beds) and average number of patients daily.*

Capacity of hospital (beds) and average number of patients daily.	Distribution as to capacity.		Distribution as to average number of patients daily.	
	Number of schools.	Per cent of total.	Number of schools.	Per cent of total.
1	2	3	4	5
<b>2,000 or fewer:</b>				
1- 100.....	6	6.83	8	9.41
101- 200.....	5	5.68	7	8.24
201- 300.....	3	3.41	1	1.18
301- 400.....	1	1.13	1	1.18
501- 600.....	1	1.13	2	2.34
601- 700.....	0	.00	1	1.18
701- 800.....	4	4.55	2	2.34
801- 900.....	0	.00	1	1.18
901-1,000.....	2	2.27	1	1.18
1,001-1,100.....	2	2.27	4	4.71
1,101-1,200.....	3	3.09	6	7.06
1,201-1,300.....	6	6.83	5	5.88
1,301-1,400.....	5	5.68	4	4.71
1,401-1,500.....	7	7.95	6	7.06
1,501-1,600.....	1	1.13	3	3.53
1,601-1,700.....	4	4.55	2	2.34
1,701-1,800.....	4	4.55	4	4.71
1,801-1,900.....	2	2.27	4	4.71
1,901-2,000.....	6	6.83	3	3.53
<b>Total.....</b>	<b>67</b>	<b>70.14</b>	<b>65</b>	<b>70.47</b>
<b>Over 2,000:</b>				
2,001-2,500.....	9	10.22	10	11.75
2,501-3,000.....	6	6.83	3	3.53
3,001-3,500.....	2	2.27	4	4.71
3,501-4,000.....	1	1.13	0	.00
4,001-4,500.....	2	2.27	1	1.18
4,501-5,000.....	0	.00	1	1.18
5,001-6,000.....	1	1.13	1	1.18
<b>Total.....</b>	<b>21</b>	<b>23.86</b>	<b>20</b>	<b>23.53</b>
<b>Grand total.....</b>	<b>88</b>	<b>100.00</b>	<b>85</b>	<b>100.00</b>

<sup>1</sup> Three schools not reporting.

TABLE 9.—Summary of statistics of schools for the training of professional nurses, including schools in hospitals for treatment of the insane, in 1919-20.

States.	Number of schools.	Nurse pupils.			Graduates.	Capacity of hospital (beds).	Average daily number of patients.	Schools affiliated with colleges or universities.
		Men.	Women.	Total.				
1	2	3	4	5	6	7	8	9
United States.....	1,755	559	54,394	54,953	14,980	321,619	252,823	180
Alabama.....	26	7	530	537	104	3,369	2,659	3
Arizona.....	2	0	40	40	7	235	155	0
Arkansas.....	16	0	210	210	70	1,148	596	1
California.....	68	23	3,028	3,051	806	10,007	6,709	10
Colorado.....	20	8	653	661	159	2,320	1,456	2
Connecticut.....	25	8	1,140	1,148	281	7,083	6,306	1
Delaware.....	3	0	44	44	14	335	205	0
Dist. Columbia.....	14	50	1,158	1,208	163	7,583	6,449	4
Florida.....	12	0	178	178	50	838	487	0
Georgia.....	32	2	736	738	186	2,504	1,823	2
Idaho.....	7	0	108	108	29	392	275	0
Illinois.....	114	34	3,970	4,004	1,338	29,492	25,025	19
Indiana.....	32	8	1,009	1,017	279	2,852	2,090	2
Iowa.....	59	57	1,715	1,772	383	9,223	7,770	7
Kansas.....	42	7	644	651	176	3,518	2,770	5
Kentucky.....	23	2	415	417	99	3,449	2,551	2
Louisiana.....	14	0	565	565	145	2,833	1,799	3
Maine.....	28	1	507	508	144	3,409	2,788	1
Maryland.....	26	3	900	903	241	3,915	3,093	3
Massachusetts.....	96	72	4,615	4,687	1,311	26,842	21,454	10
Michigan.....	44	2	1,849	1,851	444	12,127	9,506	6
Minnesota.....	57	6	2,260	2,266	529	11,038	8,919	6
Mississippi.....	22	0	308	308	73	1,190	734	1
Missouri.....	48	30	1,492	1,522	402	6,370	4,400	14
Montana.....	14	1	291	292	87	1,014	751	0
Nebraska.....	33	5	721	726	176	3,282	1,871	8
Nevada.....	1	0	9	9	2	40	20	0
New Hampshire.....	23	0	399	399	124	2,467	2,055	0
New Jersey.....	46	23	1,306	1,329	330	11,819	10,194	1
New Mexico.....	2	0	3	3	1	150	135	0
New York.....	161	68	6,365	6,433	2,368	62,212	52,265	16
North Carolina.....	53	0	788	788	188	3,855	3,011	0
North Dakota.....	15	0	384	384	108	1,069	651	0
Ohio.....	81	14	2,494	2,508	655	15,757	11,819	13
Oklahoma.....	25	0	427	427	96	2,296	1,672	3
Oregon.....	13	0	334	334	91	1,419	1,237	0
Pennsylvania.....	183	92	6,027	6,119	1,543	35,606	27,183	10
Rhode Island.....	11	16	557	573	221	2,844	2,340	0
South Carolina.....	23	0	426	426	98	3,789	2,998	3
South Dakota.....	18	0	288	288	62	1,043	690	1
Tennessee.....	22	2	617	619	131	2,228	1,554	7
Texas.....	40	2	1,101	1,103	299	4,029	2,613	2
Utah.....	7	1	272	273	76	890	562	0
Vermont.....	14	3	209	212	56	1,371	1,117	1
Virginia.....	37	4	806	809	209	3,100	2,074	3
Washington.....	26	2	803	805	177	2,746	1,773	1
West Virginia.....	33	0	527	527	109	2,223	1,372	1
Wisconsin.....	39	6	1,040	1,046	349	3,946	2,654	4
Wyoming.....	5	0	117	117	21	300	201	3



TABLE 10.—*Summary of statistics of general nurse-training schools in 1919-20.*

States.	Number of schools.	Nurse pupils.			Graduates.	Capacity of hospital (beds).	Average daily number of patients.	Schools affiliated with colleges or universities.
		Men.	Women.	Total.				
1	2	3	4	5	6	7	8	9
United States....	1,667	250	52,145	52,395	14,445	184,543	126,452	175
Alabama.....	25	7	514	521	100	1,899	1,159	3
Arizona.....	2	0	40	40	7	235	1,155	0
Arkansas.....	16	0	210	210	70	1,148	596	1
California.....	68	23	3,028	3,051	806	10,007	6,709	10
Colorado.....	20	8	653	661	150	2,320	1,456	2
Connecticut.....	23	5	1,109	1,114	267	3,223	2,475	1
Delaware.....	3	0	44	44	14	335	205	0
District of Columbia..	13	12	1,093	1,105	149	3,843	2,900	4
Florida.....	12	0	178	178	50	838	487	0
Georgia.....	30	2	692	694	178	2,209	1,583	2
Idaho.....	7	0	108	108	29	362	275	0
Illinois.....	107	31	3,859	3,890	1,316	13,992	9,613	19
Indiana.....	32	8	1,009	1,017	279	2,852	2,090	3
Iowa.....	54	3	1,578	1,581	374	4,323	3,152	7
Kansas.....	41	5	628	633	174	2,018	1,270	5
Kentucky.....	22	0	406	406	98	2,049	1,191	2
Louisiana.....	14	0	565	565	145	2,833	1,799	3
Maine.....	26	1	440	441	131	1,475	980	1
Maryland.....	24	0	879	879	228	3,165	2,461	3
Massachusetts.....	85	56	4,156	4,212	1,219	10,036	6,951	9
Michigan.....	40	2	1,737	1,739	434	4,935	4,337	5
Minnesota.....	54	1	2,130	2,131	496	6,589	4,818	6
Mississippi.....	22	0	308	308	73	1,190	734	1
Missouri.....	48	30	1,492	1,522	402	6,370	4,400	14
Montana.....	14	1	291	292	87	1,014	751	0
Nebraska.....	32	5	717	722	174	2,532	1,868	8
Nevada.....	1	0	9	9	2	40	20	0
New Hampshire.....	22	0	375	375	115	1,117	801	0
New Jersey.....	43	0	1,179	1,179	309	5,209	3,791	1
New Mexico.....	2	0	3	3	1	150	135	0
New York.....	146	0	6,027	6,027	2,219	25,093	14,843	16
North Carolina.....	51	0	754	754	185	2,653	1,896	0
North Dakota.....	15	0	384	384	108	1,059	651	0
Ohio.....	77	14	2,439	2,453	636	9,006	6,377	12
Oklahoma.....	24	0	407	407	92	1,266	788	3
Oregon.....	13	0	334	334	91	1,419	1,227	0
Pennsylvania.....	171	17	5,714	5,731	1,479	22,162	16,078	8
Rhode Island.....	9	2	507	509	209	1,244	860	0
South Carolina.....	22	0	411	411	87	1,409	818	3
South Dakota.....	17	0	266	266	62	973	650	0
Tennessee.....	22	2	617	619	131	2,228	1,554	7
Texas.....	40	2	1,101	1,103	289	4,029	2,613	2
Utah.....	7	1	272	273	76	890	562	0
Vermont.....	12	0	197	197	52	604	389	1
Virginia.....	37	4	806	809	209	3,100	2,074	3
Washington.....	26	2	803	805	177	2,746	1,773	1
West Virginia.....	33	0	527	527	109	2,223	1,372	1
Wisconsin.....	38	6	1,033	1,039	347	3,771	2,504	4
Wyoming.....	5	0	117	117	21	360	201	3

TABLE 11.—*Summary of statistics of schools in hospitals for treatment of the insane, training pupils for professional nurses, in 1919-20.*

States.	Number of schools.	Nurse pupils.			Graduates.	Capacity of hospital (beds).	Average daily number of patients.	Schools affiliated with colleges or universities.
		Men.	Women.	Total.				
1	2	3	4	5	6	7	8	9
United States....	88	309	2,240	2,558	535	137,076	126,371	5
Alabama.....	1	0	16	16	4	1,500	1,500	0
Connecticut.....	2	3	31	34	14	3,860	3,831	0
District of Columbia..	1	38	65	103	14	3,740	3,489	0
Georgia.....	2	0	44	44	8	295	240	0
Illinois.....	7	3	111	114	22	15,500	15,412	0
Iowa.....	5	54	137	191	9	4,900	4,618	0
Kansas.....	1	2	16	18	2	1,500	1,500	0
Kentucky.....	1	2	9	11	1	1,400	1,360	0
Maine.....	2	0	67	67	13	1,934	1,808	0
Maryland.....	2	3	21	24	13	750	632	0
Massachusetts.....	11	16	459	475	82	16,806	14,508	1
Michigan.....	4	0	112	112	10	7,192	5,171	1
Minnesota.....	3	5	130	135	33	4,449	4,101	0
Nebraska.....	1	0	4	4	2	750	3	0
New Hampshire.....	1	0	24	24	9	1,350	1,254	0
New Jersey.....	3	23	127	150	21	6,610	6,408	0
New York.....	15	68	338	406	149	37,119	37,422	0
North Carolina.....	2	0	34	34	3	1,202	1,115	0
Ohio.....	4	0	55	55	19	6,751	5,442	0
Oklahoma.....	1	0	20	20	4	1,030	884	0
Pennsylvania.....	12	75	313	388	64	13,446	11,106	2
Rhode Island.....	2	14	50	64	12	1,600	1,480	0
South Carolina.....	1	0	25	25	11	2,380	2,180	0
South Dakota.....	1	0	22	22	0	70	40	1
Vermont.....	2	3	12	15	4	767	728	0
Wisconsin.....	1	0	7	7	2	175	150	0

TABLE 12.—Distribution of nurse-training schools and nurse pupils according to the educational requirement for admission in general hospitals, 1919-20.

States.	Eighth grade.				One year of high school.				Two years of high school.				Three years of high school.				Four years of high school.			
	Schools.		Students.		Schools.		Students.		Schools.		Students.		Schools.		Students.		Schools.		Students.	
	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
United States.	157	9.6	3,289	6.4	694	42.2	20,018	38.4	355	21.5	10,990	21.6	7	0.4	269	0.5	434	25.3	15,287	32.1
Alabama.	1	4.0	16	3.1	6	24.0	181	34.7	7	28.0	179	34.4					11	44.0	145	27.8
Arizona.	1	50.0	16	40.0	1	50.0	24	60.0												
Arkansas.	1	6.2	26	12.4	6	37.5	86	41.0	3	18.8	37	17.6					5	31.3	44	21.0
California.	5	7.4	81	2.7	2	3.0	103	3.4	15	22.0	804	26.3	1	6.2	17	8.1	46	67.6	2,083	67.6
Colorado.					10	50.0	191	28.9	6		318	48.1					4	20.0	152	23.0
Connecticut.	2	8.7	35	3.2	18	78.3	914	82.0	1	4.3	17	1.5					2	8.7	148	13.3
Delaware.					1	33.4	15	34.1	1	33.3	19	43.2					1	33.3	10	22.7
Dist. Columbia.									8	61.5	333	30.1	1	7.7	58	5.3	4	30.8	714	64.6
Florida.					5	41.7	82	46.1	5	41.7	65	36.5					2	16.6	31	17.4
Georgia.	5	16.6	89	12.8	2	6.7	70	10.1	7	23.4	255	36.7					16	53.3	280	40.4
Idaho.									5	71.4	93	86.1					2	28.6	15	13.9
Illinois.	13	12.4	226	6.2	75	71.4	1,984	58.0	7	6.7	242	6.8					10	9.5	1,155	32.0
Indiana.	13	40.6	345	34.2	2	6.2	22	2.2	8	25.0	210	20.6					9	28.2	437	43.0
Iowa.	2	3.7	123	7.8	36	66.6	966	61.1	7	13.0	120	7.6					9	16.7	372	23.5
Kansas.	12	29.3	144	22.8	14	34.2	252	36.8	3	7.3	45	7.1					12	20.2	192	30.3
Kentucky.	1	4.5	6	1.4	17	77.3	319	78.6	2	9.1	54	13.3					2	9.1	27	6.7
Louisiana.					13	62.8	555	68.2									1	7.2	10	1.8
Maryland.					7	26.9	75	17.0	11	42.3	201	45.6					8	30.8	166	37.4
Massachusetts.									1	4.2	13	1.5					23	94.8	896	58.5
Michigan.	2	2.4	93	2.3	20	24.4	942	23.3	29	35.4	1,309	32.4					31	37.8	1,697	42.0
Minnesota.	19	47.5	491	28.2	8	20.0	268	14.8	12	30.0	818	47.1					1	2.5	172	9.9
Mississippi.	9	16.6	380	15.5	9	16.7	202	9.5	13	24.1	372	17.4					21	38.9	1,076	30.5
Missouri.	3	13.6	44	14.3	2	6.1	17	5.5	6	22.7	85	27.6					12	34.6	162	32.6
Montana.	12	25.0	298	19.6	11	22.9	301	19.8	15	31.2	555	36.4					10	27.1	591	24.2
Nebraska.					6	42.9	141	48.3	7	50.0	130	44.5					1	7.1	21	7.2

	1	100.0	9	100.0	9	28.1	129	17.9	53.2	315	43.6	1	4.6	16	4.3	6	13.7	278	38.5
Nebraska.....	1	100.0	9	100.0	8	38.3	179	46.1								13	59.1	186	49.6
Nevada.....	3	6.9	48	4.1	36	83.7	1,045	88.6		38	2.8	1	4.6			2	4.7	183	4.5
New Hampshire.....	2	100.0	3	100.0															
New Jersey.....	4	2.9	127	2.4	114	82.0	3,708	71.4	7.2	364	7.1					11	7.9	992	19.1
New Mexico.....	1	2.0	113	1.8	14	28.0	233	35.4	14.0	125	16.6					26	56.0	842	46.2
North Carolina.....	5	37.8	101	26.7	17	26.6	247	64.3	12.3	19	4.2					12	6.7	740	3.2
North Dakota.....	6	7.8	96	2.7	57	74.0	1,512	61.6	2.6	158	1.4					12	12.6	811	34.3
Oklahoma.....	2	8.3	27	6.6	9	37.5	137	38.6	41.7	183	45.7	1	4.2	12	3.0	2	8.3	235	6.1
Oregon.....	1	7.7	6	1.8	2	15.3	24	10.2	30.8	71	21.3					5	33.5	208	62.3
Pennsylvania.....	6	3.6	114	2.1	92	58.9	3,433	61.0	17.9	975	17.3	1	7.7	15	4.4	33	19.4	1,108	19.6
Rhode Island.....	1	14.3	5	1.3	3	42.9	115	31.8	26.6	161	44.5					11	14.3	81	22.4
South Carolina.....	6	28.0	127	30.9	1	4.5	50	12.2	18.0	49	11.9					11	48.5	185	45.0
South Dakota.....									88.2	232	87.2					2	11.8	34	12.8
Tennessee.....	2	9.1	19	3.0	5	22.7	174	28.1	18.2	165	28.7					11	50.0	261	42.2
Texas.....	6	15.0	102	9.3	11	28.0	300	27.2	17.0	478	43.3					12	30.0	223	20.2
Utah.....	1	14.4	26	13.1	5	71.2	221	81.0	14.4	16	5.9								
Vermont.....					7	58.0	92	46.7	25.0	33	16.8					3	17.0	72	36.5
Virginia.....	4	11.0	62	6.6	11	30.6	232	29.3	30.6	279	35.3					10	27.8	228	28.8
Washington.....	2	7.7	26	3.1	5	19.2	70	8.7	26.9	230	28.6					12	46.2	490	59.6
West Virginia.....	1	8.0	6	1.1	16	48.6	285	54.1	9.1	38	7.2					13	39.4	198	37.6
Wisconsin.....	1	2.7	5	.6	2	5.4	23	2.3	83.8	872	88.0					3	8.1	91	9.2
Wyoming.....	1	20.0	32	27.4	2	40.0	58	49.6	20.0	16	13.7					1	20.0	11	9.3

<sup>1</sup> One school, enrolling 193 pupils, admits pupils of affiliated accredited schools and graduates of accredited schools; another school, enrolling 90 pupils, admits only seniors from accredited schools.

<sup>2</sup> One school, enrolling 62 pupils, admits only pupils from general hospitals and graduate nurses; another school, enrolling 96 pupils, admits only pupils with 2 years' general hospital training; another school, enrolling 13 pupils, admits only graduate nurses.

<sup>3</sup> Four schools, enrolling 750 pupils, admit only nurses from affiliated hospitals; two other schools, enrolling 69 pupils, admit only graduates from general hospitals; one other school, enrolling 19 pupils, admits only pupils who have been affiliated with a registered training school.

<sup>4</sup> One school, enrolling 14 pupils, admits only normal-school graduates.

<sup>5</sup> Three schools, enrolling 163 pupils, admit only pupils from affiliated hospitals.

<sup>6</sup> One school, enrolling 123 pupils, admits only pupils from affiliated hospitals and graduate nurses; another school, enrolling 24 pupils, admits only pupils from affiliated hospitals.

<sup>7</sup> One school, enrolling 18 pupils, admits only graduates from accredited nurse-training schools.

<sup>8</sup> One school, enrolling 48 pupils, admits only pupils from affiliated schools.

TABLE 13.—*Distribution of nurse training schools and nurse pupils according to the educational requirements for admission in hospitals for treatment of the insane, 1919-20.*

States.	Eighth grade.				One year of high school.				Two years of high school.				Four years of high school.			
	Schools.		Students.		Schools.		Students.		Schools.		Students.		Schools.		Students.	
	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
United States.....	20	22.7	722	28.6	48	54.6	1,469	57.5	4	4.5	54	2.1	16	18.2	303	11.8
Alabama.....	1	100.0	16	100.0	1	50.0	13	38.3	1	50.0	21	61.7				
Connecticut.....	1	100.0	103	100.0	1	50.0	38	86.4								
Dist. Columbia.....	3	42.9	32	28.1	3	42.9	24	21.0					1	50.0	6	13.6
Georgia.....	4	80.0	181	94.8	1	20.0	10	5.2					1	14.2	58	50.9
Illinois.....	1	100.0	11	100.0	1	50.0	53	79.0					1	100.0	18	100.0
Iowa.....	1	100.0											1	50.0	14	21.0
Kansas.....	1	100.0											2	100.0	24	100.0
Kentucky.....																
Maine.....																
Maryland.....																
Massachusetts.....																
Michigan.....	3	75.0	90	80.4	11	100.0	475	100.0					1	25.0	22	19.6
Minnesota.....	3	100.0	135	100.0												
Missouri.....																
Montana.....																
Nebraska.....									1	100.0	4	100.0				
Nevada.....																
New Hampshire.....					1	100.0	24	100.0								
New Jersey.....	2	66.7	129	86.0	1	33.3	21	14.0								
New York.....	1	66.7	388	95.6	14	88.3	34	100.0					1	6.7	18	4.4
North Carolina.....	2	100.0	34	100.0	2	100.0	10	18.2					2	25.0	80	64.6
Ohio.....	1	25.0	15	27.2	1	25.0	10	18.2								
Oklahoma.....					1	100.0	20	100.0								
Pennsylvania.....																
Rhode Island.....	1	8.3	20	5.2	8	66.7	295	76.0					3	25.0	73	18.8
South Carolina.....					2	100.0	64	100.0								
South Dakota.....													1	100.0	25	100.0
Tennessee.....									1	100.0	22	100.0				
Vermont.....													2	100.0	15	100.0
Wisconsin.....									1	100.0	7	100.0				

TABLE 14.—*Distribution of general nurse training schools according to minimum age requirements for admission, in 1919-20.*

States.	Schools admitting pupils under 18 years.		Schools requiring 18 years.		Schools requiring 19 years.		Schools requiring 20 years.		Schools requiring 21 years.		Schools requiring 22 years or more.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
1	2	3	4	5	6	7	8	9	10	11	12	13
United States.	5	0.3	1,017	61.0	409	24.5	147	8.8	85	5.1	4	0.3
Alabama.....			19	76.0	2	8.0	3	12.0	1	4.0		
Arizona.....			1	50.0			1	50.0				
Arkansas.....			12	75.0	3	18.7	1	6.3				
California.....			51	75.0	12	17.6	3	4.5	2	2.9		
Colorado.....			11	55.0	5	25.0	3	15.0	1	5.0		
Connecticut.....			9	39.1	10	43.5	3	13.0	1	4.4		
Delaware.....			2	66.7					1	33.3		
Dist. Columbia.....			6	46.3	3	23.0	3	23.0	1	7.7		
Florida.....			12	100.0								
Georgia.....			20	66.7	5	16.7	4	13.3	1	3.3		
Idaho.....			4	57.1	1	14.3	1	14.3	1	14.3		
Illinois.....			11	10.3	85	79.4	8	7.5	3	2.8		
Indiana.....	1	3.1	24	75.0	3	9.4	1	3.1	3	9.4		
Iowa.....			39	72.2	11	20.4	2	3.7	2	3.7		
Kansas.....			21	51.2	7	17.1	9	22.0	4	9.7		
Kentucky.....			13	59.1	9	40.9						
Louisiana.....			11	78.5	2	14.3	1	7.2				
Maine.....			13	50.0	2	7.8	5	19.2	5	19.2	1	3.8
Maryland.....			14	58.3	7	29.2	2	8.3			1	4.2
Massachusetts.....			42	49.4	20	23.5	12	14.1	10	11.8	1	1.2
Michigan.....			34	85.0	6	15.0						
Minnesota.....			18	33.3	22	40.7	11	20.4	3	5.6		
Mississippi.....			19	86.4	1	4.5	2	9.1				
Missouri.....	1	2.1	20	41.7	17	35.4	10	20.8				
Montana.....			9	64.3	4	28.6	1	7.1				
Nebraska.....			2	6.3	28	87.5	1	3.1	1	3.1		
Nevada.....			1	100.0								
New Hampshire.....			3	13.6	10	45.5	5	22.7	4	18.2		
New Jersey.....			26	60.5	6	14.0	5	11.6	5	11.6	1	2.3
New Mexico.....			2	100.0								
New York.....	2	1.4	104	71.2	20	13.7	13	8.9	7	4.8		
North Carolina.....			37	72.5	5	9.8	6	11.8	3	5.9		
North Dakota.....			11	73.3	3	20.0			1	6.7		
Ohio.....	1	1.3	53	68.8	16	20.8	3	3.9	4	5.2		
Oklahoma.....			19	79.2	3	12.5			2	8.3		
Oregon.....			2	15.4	7	53.8	3	23.1	1	7.7		
Pennsylvania.....			141	82.6	17	9.9	7	4.1	6	3.4		
Rhode Island.....			5	55.6	3	33.3	1	11.1				
South Carolina.....			16	72.8	1	4.5	3	13.6	2	9.1		
South Dakota.....			14	82.4	3	17.6						
Tennessee.....			18	81.8	1	4.5	2	9.2	1	4.5		
Texas.....			34	85.0	4	10.0	1	2.5	1	2.5		
Utah.....			6	85.7	1	14.3			1			
Vermont.....			11	91.7	1	8.3						
Virginia.....			22	59.5	7	18.9	2	5.4	6	16.2		
Washington.....			16	61.5	5	19.2	5	19.3				
West Virginia.....			27	81.8	3	9.1	1	3.0	2	6.1		
Wisconsin.....			8	21.1	28	73.7	2	5.2				
Wyoming.....			4	80.0			1	20.0				

TABLE 15.—*Distribution of nurse training schools according to minimum age requirement for admission to nurse training schools in hospitals for the insane, in 1919-20.*

States.	Schools requiring 18 years.		Schools requiring 19 years.		Schools requiring 20 years.		Schools requiring 21 years.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
1	2	3	4	5	6	7	8	9
United States....	65	73.9	9	10.2	8	9.1	6	6.8
Alabama.....	1	100.0						
Connecticut.....	1	50.0			1	50.0		
Dist. Columbia.....	1	100.0						
Georgia.....	2	100.0						
Illinois.....	2	28.6	3	42.9	1	14.3	1	14.2
Iowa.....	5	100.0						
Kansas.....	1	100.0						
Kentucky.....	1	100.0						
Maine.....	2	100.0						
Maryland.....	2	100.0						
Massachusetts.....	10	90.9	1	9.1				
Michigan.....	4	100.0						
Minnesota.....	2	66.7			1	33.3		
Nebraska.....			1	100.0				
New Hampshire.....					1	100.0		
New Jersey.....	3	100.0						
New York.....	11	73.3	2	13.3	1	6.7	1	6.7
North Carolina.....	2	100.0						
Ohio.....					1	25.0	3	75.0
Oklahoma.....	1	100.0						
Pennsylvania.....	10	83.3			2	16.7		
Rhode Island.....	1	50.0	1	50.0				
South Carolina.....	1	100.0						
South Dakota.....	1	100.0						
Vermont.....	1	50.0					1	50.0
Wisconsin.....			1	100.0				

TABLE 16.—*Distribution of general nurse training schools according to the number of hours of duty required daily and the length of course offered in 1919-20.*

States.	Number of schools requiring the hours of duty indicated.							Number of schools offering courses of the length indicated. <sup>1</sup>					
	Fewer than 8 hours.	8 hours.	8½ hours.	9 hours.	9½ hours.	10 hours.	12 hours.	Less than 1 year.	From 1 to 1.9 years.	From 2 to 2.9 years.	From 3 to 3.9 years.	Four years' course.	Not reporting length of course.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
United States...	53	539	77	474	33	443	48	* 26	18	179	1,439	3	2
Alabama.....		3	1	9		7	5				25		
Arizona.....		2									2		
Arkansas.....		5	2	4	1	1	3			2	14		
California.....	30	38							1		67		
Colorado.....	1	10	1	6	1	1					20		
Connecticut.....	2	5	1	8	2	4	1		1	6	16		
Delaware.....		1		1		1					3		
Dist. of Columbia.....		7	3	2		1					13		
Florida.....	1			7	1	3					12		
Georgia.....	2	7	2	9	1	* 7	2			2	28		
Idaho.....	1		1	2		3					7		
Illinois.....	2	35	5	31	4	27	3	4		17	86		
Indiana.....		11	1	10		9	1	1			31		
Iowa.....		16	5	20	1	11	1		1		53		
Kansas.....		13		13	1	12	2			8	23		
Kentucky.....		6	1	7		8					21	1	
Louisiana.....		4		4		* 4	2				14		
Maine.....		10		3		* 13			1	8	17		
Maryland.....	1	8	1	7		7				1	23		
Massachusetts.....	6	24	7	25	2	20	1	3	2	9	71		
Michigan.....		21	1	12		4	2			8	32		
Minnesota.....	1	29		9		15			1	4	49		
Mississippi.....		7	1	1		11	2			5	16	1	
Missouri.....		13	3	18	2	8	4		2	2	42	1	1
Montana.....		* 11		2		1					14		
Nebraska.....		10	2	13		7					32		
Nevada.....							1				1		
New Hampshire.....		1	1	8	1	9	2		1	5	16		
New Jersey.....		6		13	1	20	3		2	9	32		
New Mexico.....						2					1		1
New York.....	4	* 32	6	50	2	50	2	11	2	53	80		
North Carolina.....		* 14	3	14	1	18	1			1	50		
North Dakota.....		7	1	6			1				15		
Ohio.....	1	41	1	21		12	1		1	4	72		
Oklahoma.....		7		10	1	6				7	17		
Oregon.....		12				1				1	12		
Pennsylvania.....		* 34	11	61	6	56	3	4	1	10	156		
Rhode Island.....		2		5		2		2		1	6		
South Carolina.....		5		4		12	1				22		
South Dakota.....		5		4	1	7					17		
Tennessee.....		6	2	7		5	2			5	17		
Texas.....		15	3	9		11	2			6	34		
Utah.....	1	1	2	3							7		
Vermont.....			1	4		7				3	9		
Virginia.....		16	1	12		8			1		36		
Washington.....		7	2	8	3	6				2	24		
West Virginia.....		9	2	3		19					33		
Wisconsin.....		20	2	9				1	1		36		
Wyoming.....		3	1		1	7					5		

<sup>1</sup> In nurse training schools maintained in hospitals for the treatment of insane patients, only two and three-year courses are offered, 23 schools offering a two-year course and 64 schools a three-year course, with one school not reporting the length of course offered.

\* Courses in 17 schools are for graduate nurses or for pupils from affiliated schools.

† One school with 10½ hours included.

‡ One school with 11 hours included.

§ Two schools with 11 hours included.

¶ One school with 8½ hours included.

‡ One school with 8½ hours included.



TABLE 17.—*Distribution of nurse training schools according to the number of hours of duty required daily in hospitals for treatment of the insane, in 1919-20.*

States.	Number of schools requiring the hours of duty indicated.				
	8 hours.	9 hours.	10 hours.	11 hours.	12 hours.
1	2	3	4	5	6
United States.....	22	5	28	2	2
Alabama.....	1				
Connecticut.....			1		1
Dist. of Columbia.....	1				
Georgia.....		1			1
Illinois.....	7				
Iowa.....			1		14
Kansas.....					11
Kentucky.....					11
Maine.....			1	1	
Maryland.....	1		1		
Massachusetts.....	1		9	1	
Michigan.....	2				12
Minnesota.....	3				
Nebraska.....					1
New Hampshire.....			1		
New Jersey.....			1		2
New York.....	2		5		8
North Carolina.....					12
Ohio.....					14
Oklahoma.....		1			
Pennsylvania.....	3	3	4		2
Rhode Island.....			1		1
South Carolina.....			1		
South Dakota.....	1				
Vermont.....			2		
Wisconsin.....					1

<sup>1</sup> Two schools of 13 hours included. Two schools of 14 hours included.

<sup>2</sup> One school of 14 hours included.

<sup>3</sup> One school of 14½ hours included.

<sup>4</sup> One school of 8½ hours included.

<sup>5</sup> One school of 10½ hours included.

<sup>6</sup> One school of 7 hours included.

<sup>7</sup> One school of 13 hours included.

TABLE 18.—*Distribution of general nurse-training schools according to remuneration granted to pupils in 1919-20.*<sup>1</sup>

States.	Schools paying first-year pupils—						Schools paying second-year pupils—						Schools paying third-year pupils—					
	Less than \$100.		\$100 to \$199.		\$200 and over.		Less than \$100.		\$100 to \$199.		\$200 and over.		Less than \$100.		\$100 to \$199.		\$200 and over.	
	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1																		
United States.....	826	53.6	625	40.6	90	5.8	542	35.4	856	55.9	133	8.7	420	29.1	872	60.4	151	10.5
Alabama.....	7	30.4	11	47.8	5	21.8	1	4.3	15	65.2	7	30.5	1	4.5	14	63.6	7	31.9
Arizona.....	2	100.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0	1	50.0	1	50.0	0	0.0
Arkansas.....	7	43.7	9	56.3	0	0.0	5	31.3	11	68.7	0	0.0	3	23.1	10	76.9	0	0.0
California.....	37	56.1	24	36.4	5	7.5	23	34.8	34	51.5	9	13.7	12	18.4	40	61.5	13	20.1
Colorado.....	12	63.2	7	36.8	0	0.0	8	42.1	11	57.9	0	0.0	7	36.8	12	63.2	0	0.0
Connecticut.....	11	47.8	12	52.2	0	0.0	8	34.8	15	65.2	0	0.0	11	50.0	9	40.9	2	9.1
Delaware.....	0	0.0	3	100.0	0	0.0	0	0.0	3	100.0	0	0.0	0	0.0	3	100.0	0	0.0
Dist. Columbia.....	4	30.8	7	53.8	2	15.4	4	30.8	7	53.8	2	15.4	3	23.1	8	61.5	2	15.4
Florida.....	2	16.7	5	41.7	5	41.6	1	8.3	9	41.7	6	50.0	0	0.0	6	50.0	6	50.0
Georgia.....	16	55.2	13	44.8	0	0.0	7	24.1	21	72.4	1	3.5	1	3.7	25	92.6	1	3.7
Idaho.....	2	28.6	4	57.1	1	14.3	1	14.3	5	71.4	1	14.3	0	0.0	6	85.7	1	14.3
Illinois.....	72	75.8	22	23.2	1	1.0	53	55.3	37	38.4	2	2.1	20	36.6	44	53.7	8	9.7
Indiana.....	19	67.9	7	25.0	2	7.1	11	39.3	15	53.6	5	16.3	8	28.6	17	60.7	3	10.7
Iowa.....	43	84.3	7	13.7	1	2.0	35	67.3	16	30.7	1	2.0	20	39.2	29	56.9	2	3.9
Kansas.....	25	65.8	11	28.9	2	5.3	18	45.0	19	47.5	3	7.5	13	37.1	29	64.3	3	8.6
Kentucky.....	10	50.0	9	45.0	1	5.0	7	35.0	10	50.0	3	15.0	6	30.0	8	40.0	6	30.0
Louisiana.....	1	7.7	12	92.3	0	0.0	4	0.0	11	94.6	2	15.4	7	30.4	11	84.6	2	15.4
Maine.....	13	50.0	12	46.2	1	3.8	4	16.7	19	79.2	1	4.1	7	30.4	15	65.2	1	4.4
Maryland.....	9	45.0	10	50.0	0	0.0	8	40.0	11	55.0	1	5.0	8	42.1	10	52.6	1	5.3
Massachusetts.....	45	60.8	27	36.5	2	2.7	31	42.5	40	54.8	2	2.7	30	41.7	39	54.2	3	4.1
Michigan.....	26	70.3	10	27.0	1	2.7	19	51.4	17	45.9	1	2.7	18	50.0	15	41.7	3	8.3
Minnesota.....	40	53.5	16	19.5	0	0.0	12	15.0	18	22.5	1	1.3	38	52.6	7	9.3	1	1.3
Mississippi.....	6	27.3	13	72.7	0	0.0	3	12.0	17	68.4	0	0.0	13	17.4	14	53.8	0	0.0
Missouri.....	7	47.5	12	32.5	0	0.0	22	54.3	15	38.4	0	0.0	16	42.9	18	50.0	2	5.6
Montana.....	10	71.4	4	23.0	0	0.0	9	64.3	5	33.7	0	0.0	6	42.9	7	50.0	1	7.1

This table does not include 128 schools not reporting or giving no remuneration.

TABLE 18.—*Distribution of general nurse-training schools according to remuneration granted to pupils in 1919-20—Continued.*

States.	Schools paying first-year pupils—						Schools paying second-year pupils—						Schools paying third-year pupils—					
	Less than \$100.			\$100 to \$199.			\$200 and over.			Less than \$100.			\$100 to \$199.			\$200 and over.		
	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.
1	2	8	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Nebraska.....	13	43.2	12	44.4	2	7.4	11	40.8	12	44.4	4	14.8	6	28.1	16	61.5	4	15.4
Nevada.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Hampshire.....	11	50.0	5	40.9	2	9.1	4	19.0	16	78.2	1	4.8	8	38.1	13	61.9	0	0
New Jersey.....	16	37.2	20	46.5	7	16.3	9	22.0	24	58.5	8	19.5	7	18.6	22	56.5	8	21.6
New Mexico.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New York.....	50	37.9	63	47.7	19	14.4	34	27.2	69	55.2	22	17.6	43	40.2	57	53.2	7	6.5
North Carolina.....	22	44.0	28	56.0	0	0	10	20.0	33	78.0	2	4.0	0	0	37	73.5	3	6.1
North Dakota.....	15	100.0	0	0	0	0	13	86.7	2	13.3	0	0	12	80.0	3	20.0	0	0
Ohio.....	37	55.2	28	41.8	2	3.0	27	39.7	35	51.5	6	8.8	15	23.8	44	69.8	4	6.4
Oklahoma.....	6	25.0	13	54.2	5	20.8	2	8.3	16	66.7	6	25.0	4	17.4	13	56.5	6	26.1
Oregon.....	8	66.7	3	25.0	1	8.3	6	50.0	5	41.7	1	8.3	3	27.3	7	63.6	7	9.1
Pennsylvania.....	36	52.8	74	45.4	1	1.8	48	29.6	105	64.8	9	5.6	26	17.9	112	71.8	16	10.3
Rhode Island.....	3	71.4	2	28.6	0	0	0	42.9	3	42.9	1	14.2	3	50.0	2	33.3	1	14.7
South Carolina.....	3	15.0	0	0	0	0	2	10.0	13	90.0	0	0	2	10.0	17	85.0	1	5.0
South Dakota.....	13	81.3	3	18.7	0	0	7	43.8	9	56.2	0	0	0	0	7	56.2	0	0
Tennessee.....	8	40.0	10	50.0	2	10.0	3	15.0	15	75.0	2	10.0	1	5.8	14	82.4	2	11.8
Texas.....	16	42.1	22	57.9	0	0	3	7.9	32	84.2	3	7.9	2	6.1	28	84.8	3	9.1
Utah.....	4	71.4	3	28.6	0	0	2	28.6	5	71.4	0	0	1	14.2	6	85.8	0	0
Vermont.....	6	66.7	8	66.7	0	0	1	8.3	11	91.7	0	0	2	18.2	8	72.7	1	9.1
Virginia.....	10	26.6	15	42.8	10	28.6	5	14.7	19	56.9	10	29.4	3	8.8	20	58.8	11	32.4
Washington.....	17	65.4	9	34.6	0	0	11	42.3	14	53.9	1	3.8	7	26.9	18	69.3	1	3.8
West Virginia.....	11	35.5	18	58.1	2	6.4	6	19.4	21	67.7	4	12.9	3	9.7	19	61.3	9	29.0
Wisconsin.....	22	76.7	6	20.0	1	3.3	17	54.9	13	41.9	1	3.2	13	38.7	18	58.1	1	3.2
Wyoming.....	1	20.0	1	20.0	3	60.0	0	0	1	20.0	4	80.0	0	0	1	20.0	4	80.0

TABLE 19.—Distribution of nurse training schools according to remuneration granted to pupils enrolled in schools in hospitals for treatment of the insane, in 1919-20.

States.	Schools paying first-year pupils—						Schools paying second-year pupils—						Schools paying third-year pupils—					
	\$200 to \$299.			\$300 to \$399.			\$200 to \$299.			\$300 to \$399.			\$200 to \$299.			\$300 to \$399.		
	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.
1	2	8	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
United States.....	6	7.6	13	16.5	60	75.9	6	7.8	10	13.0	61	79.2	4	7.6	6	11.3	43	81.1
Alabama.....	0	0	1	100.0	0	0	0	0	0	100.0	0	0	0	0	0	0	1	100.0
Connecticut.....	0	0	0	0	2	100.0	0	0	0	0	2	100.0	0	0	0	0	1	100.0
Dist. Columbia.....	0	0	0	0	1	100.0	0	0	0	0	1	100.0	0	0	0	0	0	0
Georgia.....	0	0	0	0	0	0	0	0	0	0	2	100.0	0	0	0	0	2	100.0
Illinois.....	1	14.2	0	0	6	88.8	1	14.2	0	0	6	88.8	1	33.3	0	0	2	66.7
Iowa.....	0	0	1	20.0	4	80.0	0	0	1	20.0	4	80.0	0	0	1	25.0	3	75.0
Kansas.....	0	0	0	0	1	100.0	0	0	0	0	1	100.0	0	0	0	0	1	100.0
Kentucky.....	0	0	0	0	0	0	0	0	0	0	1	100.0	0	0	0	0	0	0
Maine.....	0	0	1	100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maryland.....	1	50.0	1	50.0	0	0	1	50.0	1	50.0	0	0	1	50.0	1	50.0	0	0
Massachusetts.....	0	0	0	0	10	100.0	0	0	0	0	10	100.0	0	0	0	0	10	100.0
Michigan.....	0	0	2	50.0	2	50.0	0	0	2	50.0	2	50.0	0	0	1	33.3	2	66.7
Minnesota.....	0	0	1	33.3	2	66.7	0	0	0	0	2	100.0	0	0	0	0	2	100.0
Nebraska.....	0	0	0	0	1	100.0	0	0	0	0	1	100.0	0	0	0	0	1	100.0
New Hampshire.....	0	0	0	0	0	0	0	0	1	100.0	0	0	0	0	0	0	1	100.0
New Jersey.....	0	0	0	0	3	100.0	0	0	0	0	3	100.0	0	0	0	0	3	100.0
New York.....	1	7.7	0	0	12	92.3	1	7.7	0	0	12	92.3	0	0	0	0	7	87.5
North Carolina.....	0	0	1	100.0	0	0	0	0	0	0	1	100.0	0	0	0	0	1	100.0
Ohio.....	0	0	1	25.0	3	75.0	0	0	1	25.0	3	75.0	0	0	0	0	0	0
Oklahoma.....	0	0	1	100.0	0	0	0	0	0	0	1	100.0	0	0	0	0	0	0
Pennsylvania.....	1	9.1	2	18.2	8	72.7	1	9.1	2	18.2	8	72.7	1	14.3	2	28.6	4	57.1
Rhode Island.....	0	0	0	0	1	100.0	0	0	0	0	0	0	0	0	0	0	1	100.0
South Carolina.....	1	100.0	0	0	0	0	1	100.0	0	0	0	0	0	0	0	0	0	0
South Dakota.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vermont.....	0	0	0	0	2	100.0	0	0	0	0	1	100.0	0	0	0	0	0	0
Wisconsin.....	1	100.0	0	0	0	0	0	0	1	100.0	0	0	0	0	1	100.0	0	0

<sup>1</sup> Two hospitals each paying first year \$120, second year \$132, third year \$144.

<sup>2</sup> One hospital paying \$180 per year for 3 years.

<sup>3</sup> One hospital paying no remuneration. One school paying \$60, \$56, \$56, respectively, for 3 years.

<sup>4</sup> One school paying \$180 per year for 3 years.

<sup>5</sup> One hospital paying \$180, \$192, and \$206 respectively, for 3 years.

<sup>6</sup> One hospital paying \$165, \$162, \$162.

<sup>7</sup> One hospital paying \$72 each year.



DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1921, No. 52

# RECORD OF CURRENT EDUCATIONAL PUBLICATIONS

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## NOTE.

The titles included in the classified and annotated list which follows are of books and articles selected by the compilers from the current educational literature of the final months of 1921, subsequent to the preparation of Bulletin, 1921, no. 49, *Monthly Record of Current Educational Publications*, October, 1921.

This office can not supply the publications listed in this bulletin, other than those expressly designated as publications of the Bureau of Education. Books, pamphlets, and periodicals here mentioned may ordinarily be obtained from their respective publishers, either directly or through a dealer, or, in the case of an association publication, from the secretary of the issuing organization. Many of them are available for consultation in various public and institutional libraries.

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## PROCEEDINGS OF ASSOCIATIONS.

1421. *Illinois state teachers' association. Journal of the sixty-seventh annual meeting . . . held at Springfield, Illinois, December 29-31, 1920.* 240 p. 8°. (Robert C. Moore, secretary, Carlinville, Ill.)

Contains: 1. C. W. Washburne: Can public schools be fitted to the individual pupils, p. 129-34. 2. P. E. Belting: The development and interpretation of high school spirit as a factor in supervision, p. 138-44. 3. B. F. Shafer: Needed legislation from the viewpoint of the city high school, p. 155-59. 4. U. P. Hoffman: Teaching a country school, p. 164-69. 5. Myrtle L. Kaufmann: Primary room equipment, p. 175-78. 6. C. C. Walther: Relation of the school garden to the life of the child, p. 185-87. 7. A. Wald: Extra curricular activities, their place and supervision, p. 191-93.



1422. National education association. Addresses and proceedings of the fifty-ninth annual meeting held at Des Moines, Iowa, July 3-8, 1921. Pub. by the Association, Secretary's office, Washington, D. C., 1921. 823 p. 8°. (J. W. Crabtree, secretary, 1201 Sixteenth Street, N. W., Washington, D. C.)

Contains:—

*General sessions.*—1. B. B. Lindsey: The parenthood of the state, p. 42-54. 2. A. H. Chamberlain: How to secure results through professional organization, p. 55-65. 3. Aurelia H. Reinhardt: Education of the women of the United States, p. 65-74. 4. American program in education, p. 74-128. 5. Reports of committees, p. 128-82. 6. F. M. Hunter: Report of the president on the program and the development of the association, p. 184-208.

*National council of education.*—(Atlantic City meeting) 7. F. M. Hunter: The most important thing in American education, p. 274-81. 8. Harlan Updegraff: Participation of teachers in school management, p. 284-93. 9. E. J. Ortman: Teacher councils, p. 293-301. 10. Edward Jackson: Daylight in the schoolroom, p. 308-15. 11. Discussion, Thrift education, p. 315-31. (Des Moines meeting) 12. J. H. Phillips: The place of religious sanctions in character training, p. 347-50. 13. G. L. Towne: Can adequate financial support be secured for rural schools? p. 358-62. 14. Report of the committee on changes needed in the elementary school course, p. 364-68.

*Department of business education.*—15. C. O. Ruggles: Articulation of secondary and higher education in business, p. 369-73. 16. G. F. Knipprath: Qualifications for teaching commercial subjects in secondary schools, p. 373-75.

*Department of child hygiene.*—17. C. P. Knight: Health supervision of school children on a state-wide basis, p. 379-83. 18. H. O. Jones: A teacher's opportunity from a health officer's viewpoint, p. 386-91. 19. W. A. Evans: A plan for scoring the behavior difficulties of school children, p. 395-96.

*Department of classroom teachers.*—20. E. A. Fitzpatrick: The teacher's responsibility to the board of education, p. 400-2. 21. Ethel M. Gardner: The school building in its reaction on the teacher's work, p. 404-6.

*Department of drama of women.*—22. Lillian Welsh: Health instruction and health supervision, p. 410-13. 23. Susan M. Dorsey: Position and responsibility of trained women in education, p. 413-16.

*Department of educational publications.*—24. B. E. Dill: How to improve textbooks—Sensing the demand, p. 421-25.

*Department of elementary education.*—25. W. W. Charters: The limitations of the project, p. 428-30. 26. Florence C. Fox: Limits of the project, p. 437-39.

*Department of higher education.*—27. I. Loeb: Required course in citizenship for college students, p. 456-60.

*Department of kindergarten education.*—28. C. F. Franzen: Suggestions for deriving standards of measuring achievements of kindergarten-primary children, p. 467-69.

*Library department.*—29. Adeline B. Zachert: Joy reading in the elementary grades, p. 476-82. 30. W. H. Kerr: The normal-school library; an educational institution, p. 482-88. 31. Sherman Williams: Purpose of the school library, p. 488-92. 32. A. B. Noble: Stepping-stones to correct taste, p. 496-501.

*Department of music education.*—33. J. R. Kirk: Preparation of music supervisors—shall they have a balanced college education? p. 509-13.

*Department of rural education.*—(Atlantic City meeting) 34. W. S. Deffenbaugh: Improvement of the village school, p. 531-35. 35. Marion Dana: The Waltsfield experiment, p. 535-39. 36. Edith A. Lathrop: Continued emergency in rural teacher supply and how to meet it, p. 552-57. 37. J. H. Dillard: The negro in rural education and country life, p. 580-83. (Des Moines meeting) 38. Macy Campbell: A national program for consolidation, p. 609-16.

*Department of school administration.*—(Atlantic City meeting) 39. W. C. Bagley: Federal aid for public schools, p. 618-23. 40. Safety to life in school-house planning, p. 623-630. 41. Comprehensive school building, p. 630-40. (Des Moines meeting) 42. J. J. Donovan: Best current practices in school architecture, p. 642-48.

*Department of school patrons.*—43. Cecilia Razovski: Approved methods in Americanization, p. 655-61.

*Department of superintendence.*—44. W. C. Bagley: Aims of rural education, p. 694-99. 45. C. S. Meek: How shall the superintendent spend his time? p. 728-33. 46. H. B. Wilson: Best use of the superintendent's time,

1422. National education association—Continued.  
p. 733-38. 47. Henry Snyder: Probable future of education in the United States.—Its policies and programs, p. 743-50. 48. Lotus D. Coffman: Reconstruction of American education, p. 750-58. 49. Susan M. Dorsey: Improving public school teaching, p. 768-73. 50. H. M. Towner: National aid for education, p. 786-95. 51. H. R. Bonner: Waste in education, p. 795-803.
1423. North central association of colleges and secondary schools. Proceedings of the 26th annual meeting, March 17, 18, and 19, 1921, Chicago, Ill. Part I. Pub. by the Association, 1921. 75 p. 8°. (H. M. Gage, secretary, Coe college, Cedar Rapids, Iowa)  
Contains: 1. Proceedings of the commission on higher education with list of accredited institutions, p. 9-17. 2. Proceedings of the commission on secondary schools, with lists of accredited schools, p. 18-48. 3. C. O. Davis: The duties of high school principals, p. 49-69.

### EDUCATIONAL HISTORY.

1424. Archer, R. L. Secondary education in the nineteenth century. Cambridge, University press. 1921. xiv, 363 p. 12°.  
A study of educational development in England and Wales during the period from 1789 to 1918.
1425. Boyd, William. The history of western education. London, A. & C. Black, limited, 1921. xi, 443 p. 8°.   
This book begins with the educational ventures of the ancient Greeks, and continues the narrative to the beginnings of scientific pedagogy in the twentieth century. It is essentially a record of educational evolution, with constant introduction of the personal element by reference to the experiences and thoughts of great educators.
1426. Robinson, Rodney P. The Roman school teacher and his reward. Classical weekly, 15: 57-61, December 5, 1921.  
Depicts the lot of the Roman school teacher as gleaned from the Latin authors.
1427. Weathersby, William Henington. A history of educational legislation in Mississippi from 1798 to 1860. Chicago, Ill., The University of Chicago, [1921] 204 p. 8°. (Supplementary educational monographs, published in conjunction with the School review and the Elementary school journal, vol. III. no. 4. July 1921. Whole no. 16)

### CURRENT EDUCATIONAL CONDITIONS.

#### GENERAL AND UNITED STATES.

1428. Alexander, Carter. The Wisconsin state department of public instruction under Cary. School and society, 14: 529-44, December 10, 1921.  
An analysis of the achievements and the methods of procedure of the Wisconsin state department of public instruction in recent years.
1429. Allen, Riley H. Education and race problems in Hawaii. American review of reviews, 64: 613-24, December 1921.  
Says that the problems are social and economic, religious and educational, cultural and political. Emphasizes the preponderance of Orientals in Hawaii. Illustrated.
1430. Blakely, Paul L. Is illiteracy increasing? America, 26: 190-91, December 10, 1921.
1431. Bunker, Frank F. Pan-Pacific education. Survey, 47: 214-15, November 5, 1921.  
Discusses the work of the conference on education at Honolulu, in August 1921.

1432. Bunker, Frank F. The Pan Pacific educational conference. *Mid-Pacific magazine* (Honolulu, T. H.) 22: 417-81, November, 1921. illus.
1433. Butler, Nicholas M. Education and individual liberty. *American education*, 25: 113-16, November 1921.  
Address delivered at the Convocation of the University of the State of New York, October 1921.
1434. Cooper, Richard Watson. "Better attendance in Delaware schools," being a series of newspaper articles and statistical tables used during school attendance week to emphasize the need of better attendance in Delaware schools. [Wilmington] *The Service citizens of Delaware* [1921] 62 p. incl. tables. 8°. [Service citizens of Delaware. Bulletin] vol. III, no. 4.)
1435. Deffenbaugh, W. S. Some recommendations for the improvement of the school system of Sparta, Wisconsin. Sparta, Wis., Board of education, [1921] 23p. 12°.
1436. Eastwood, R. V. A national system of education. *Kentucky high school quarterly*, 8: 1-8, August 1921.  
A thoroughly centralized national system of control, which system is democratic and distinctively American, is essential to the complete future development of public education.
1437. Harding, Warren G. A generation bowed at the altar of materialism. *School life*, 7: 49, 59-60, November 1921.  
Also in *William and Mary literary magazine*, 29: 123-33, November 1921.  
President Harding's address at the dedication of Dr. J. A. C. Chandler as president of William and Mary College, October 19, 1921, at Williamsburg, Va.  
President Harding discusses the educational crisis which confronts the nation.
1438. Magill, H. S. Education and the federal government. *School and society*, 14: 259-63, October 8, 1921.  
A résumé and discussion of the current plans for reorganizing the educational functions of the nation.  
Also published in pamphlet form as Legislative commission series no. 2, and in *Journal of the National education association*, 10: 155-58, November 1921.
1439. Pan-Pacific union. First Pan-Pacific educational conference, Honolulu, August 11-24, 1921. Program and proceedings. [Honolulu, 1921] 247 p. front. 4°. (Dr. Frank F. Bunker, executive secretary, Honolulu, Hawaii)  
Conference held under auspices of the Pan-Pacific union and called by the U. S. Bureau of education.  
CONTENTS.—Officers and organization.—List of accredited delegates.—Report of standing committees and resolutions adopted.—Daily program of sessions and of entertainment.—Addresses and discussions.
1440. Sutton, W. S. Federal activity in the educational affairs of the states. *American school board journal*, 63: 33-35, December 1921.  
Arguments against the Towner-Sterling bill.

#### FOREIGN COUNTRIES.

##### *Latin America.*

1441. Díez, Rodrigo. The recent International congress of students. *Bulletin of the Pan American union*, 53: 546-55, December 1921.  
An account of the International congress of students which opened in the city of Mexico on September 21, 1921. The great majority of the delegates to the congress were from Latin American nations, but the United States and some European countries were also represented.

1442. **Inman, Samuel Guy.** *Paraná, exponent of North American education.* The story of the remarkable influence of Yankee school teachers in Argentina. *Bulletin of the Pan American union*, 53:463-74, November 1921. illus.

An account of the first normal school and the first kindergarten in Argentina, founded by American teachers in Paraná, capital of the province of Entre-Ríos.

*Great Britain and Ireland.*

1443. **Balfour, Sir Graham.** *Educational administration*, two lectures delivered before the University of Birmingham in February, 1921. Oxford, The Clarendon press, 1921. 62 p. 8°.

The first lecture shows the historical evolution of public educational administration in England, and discusses the central and local authorities. The second lecture deals with the personal element in local official administration.

1444. **Henry, B. M.** *Irish schools of tomorrow.* *Survey*, 47:305-6, November 26, 1921.

A summary of the history of education in Ireland, with speculations regarding the future.

1445. **Hewlett, William.** *Miseducating the masses.* *Nineteenth century*, 90: 971-85, December 1921.

A plea for more idealism in education, and home culture. Discusses the sources of vulgarity in modern art, literature, made, and the theatre, which tend to cheapen or deform impressions of life. Conditions in England considered. Continues an article by Mr. Hewlett in the January 1921 number of the *Nineteenth century*, entitled *Parents first: an aspect of the education question.*

1446. **Sampson, George.** *English for the English; a chapter on national education.* Cambridge, University press, 1921. vii. 112 p. 12°.

1447. *Voluntary schools. Text of the new bill.* *Times (London) Educational supplement*, 12: 516, November 19, 1921.

Full text of the Education bill recently introduced into the House of commons by Thomas Davies. Editorial comments on the measure are made on page 519 of the same issue of the *Times supplement.*

*Germany and Russia.*

1448. **Pasvolsky, Leo.** *Education under communism: the results of soviet education.* *Educational review*, 62:324-31, November 1921.

Says that Russian communism has not, during its three years' experiment, made any contribution to the world's store of knowledge in the domain of education.

1449. **Puckett, H. W.** *Socialists in German education.* *Survey*, 47: 369-71, December 3, 1921.

Post-war changes in educational system of Germany. Describes the Academy of labor, newly founded at Frankfort; the creation of Hamburg university, etc.

**EDUCATIONAL THEORY AND PRACTICE.**

1450. **Adamson, J. E.** *The individual and the environment; some aspects of the theory of education as adjustment.* London, New York [etc.] Longmans, Green and co., 1921. x, 378 p. 8°.

This book supports the view that in the conception of the adjustment of individual and environment, there is a fundamental principle about which a rational theory of education can be developed.

1451. **Baillie, J. B.** *Studies in human nature.* London, G. Bell and sons, ltd., 1921. 296 p. 8°.  
A philosophical criticism of some phases of human nature, a work which should have a particular effect on the higher aims of national education. Among the topics discussed are the realistic character of knowledge, the nature of memory-knowledge, the place of philosophy in human nature, and science and the humanities.
1452. **Bain, A. Watson, ed.** *The modern teacher; essays on educational aims and methods.* With an introduction by W. H. Hadow. London, Methuen & co., ltd. [1921] xv, 272 p. 8°.  
Contains essays by prominent English educators on teaching the following subjects: English literature, English composition, modern languages, classics, mathematics, science, geography, history, citizenship, religion and morals.
1453. **Bode, Boyd H.** *Fundamentals of education.* New York, The Macmillan company, 1921. xi, 245 p. 12°. (The modern teachers' series, ed. by W. C. Bagley)  
An interpretation of present-day educational problems from the standpoint of pragmatic philosophy, taking up aims or ideals of education and the nature of the mind or intelligence with which education has to deal.
1454. **Doyle, J. H.** *The call of education. Volume one. Biological integrity.* Hammond, Ind., The J. H. Doyle company [1921] 289 p. 12°.
1455. **Gould, Frederick J.** *History, the teacher; education inspired by humanity's story.* With a preface by F. W. Sanderson. London, Methuen & co., ltd. [1921] 132 p. 12°.
1456. **Hunter, George W.** *An experiment in the use of three different methods of teaching in the class room. School science and mathematics.* 21: 875-90, December 1921.  
To be continued.
1457. **James, Benjamin B.** *Formal discipline again.* *School and society*, 14: 477-82, November 26, 1921.  
The conclusion of the article is that nothing we can do or make the student do will increase his native endowment.
1458. **Kilpatrick, William H.** *The wider study of method.* *Journal of educational method*, 1: 8-13, October 1921.
1459. **McCormack, Thomas J.** *The simplicist philosophy.* *School and home education*, 41: 6-13, September 1921.
1460. **Smith, Charles T.** *The school of life, a theatre of education.* London, G. Richards, ltd., 1921. vii, 120 p. plates. 12°.
1461. **Willmann, Otto.** *The science of education in its sociological and historical aspects.* Authorized translation from the 4th German edition by Felix M. Kirsch. In two volumes. Vol. I. Beatty, Pa., Archabney press, 1921. xvi. 351, 8 p. 8°.

#### EDUCATIONAL PSYCHOLOGY; CHILD STUDY.

1462. **Bruce, H. Addington.** *Self-development; a handbook for the ambitious.* New York and London, Funk & Wagnalls company, 1921. x, 332 p. 12°.
1463. **Cameron, Edward Herbert.** *Psychology and the school.* New York, The Century co., 1921. xiv. 339 p. illus., diagrs. 8°. (The Century education series.)  
Appendix (mental tests): p. 319-35.

1464. **Hughes, W. Hardin.** A practical need for social-individual psychology in high school education. *Educational administration and supervision*, 7: 527-32, December 1921.  
Presents important facts relative to mind and human behavior, also a list of references for social-individual psychology.
1465. **Kilpatrick, William H.** Mind-set and learning. *Journal of educational method*, 1: 95-102, November 1921.  
To be continued.  
A popular commentary and elaboration of some of the matter presented in E. L. Thorndike's *Educational psychology*. This account is preliminary to certain further discussions.
1466. **Watson, John B. and Watson, Rosalie R.** Studies in infant psychology. *Scientific monthly*, 13: 493-515, December 1921.  
Prepared on the basis of the experimental work done in the psychological laboratory of Johns Hopkins university in 1919 and 1920.

### PSYCHOLOGICAL TESTS.

1467. **Bird, Verne A.** General intelligence, machine-shop work, and educational guidance in the junior high school. *School review*, 29: 782-86, December, 1921.  
A study to determine within a limited field of shop work the relative chances of success for the boy with a high I. Q. and the one of low-grade intelligence.
1468. **Brooks, Fowler D.** Rate of mental growth, ages nine to fifteen. *Journal of educational psychology*, 12: 502-10, December 1921.  
Study based on experiments made at the training school of the Mankato, Minn., State teachers' college, in May 1918, 1919, and 1920. No significant sex differences in rate of mental development were found.
1469. **Burnham, William H.** Sex differences in mental ability. *Educational review*, 62: 273-84, November 1921.  
Says that the various tests of ability to do different kinds of work give little satisfactory evidence that there are distinctly sex differences.
1470. **Clement, J. A.** Intelligence tests and the marks of scholarship men in college. *Educational administration and supervision*, 7: 510-16, December 1921.  
Holds that psychological tests can be made criteria for choosing scholarship men together with the marks and recommendations made by high school teachers and officers.
1471. **Coxe, Warren W.** School variation in general intelligence. *Journal of educational research*, 4: 187-94, October 1921.  
Presents data regarding the general intelligence of 24 sixth grades in 24 elementary schools in Cincinnati. The Otis group intelligence scale was used.
1472. **Guy, J. Freeman.** The intelligence of the high school pupil. *Pennsylvania school journal*, 70: 83-87, November 1921.  
An address delivered before the high school section, Pennsylvania state educational association, December 27, 1920, by Mr. Guy, the director of research and measurement of the Pittsburgh public schools.
1473. **Herring, John P.** Verbal and abstract elements in intelligence examinations. *Journal of educational psychology*, 12: 511-17, December 1921.  
A study of relations existing between human intelligence on the one hand and certain definite abilities on the other. Concludes that "abstract and verbal tests afford better means for the prediction of human intelligence and the control of human situations than do concrete and non-verbal tests."
1474. **Price, E. D.** The End plan of classification of pupils, according to mental ability. [Enid, Oklahoma] The Board of education [1921] cover-title, [12] p. 8°.

1475. **Richards, Esther L.** The elementary school and the individual child. *Mental hygiene*, 5: 707-23, October 1921.  
Results of a study of 143 children in the dispensary of the Henry Phipps psychiatric clinic, Johns Hopkins hospital, Baltimore, Md.
1476. **Roback, A. A.** Subjective tests vs. objective tests. *Journal of educational psychology*, 12: 439-44, November 1921.  
Contends that purely objective tests must necessarily be artificial, in no way representing a life situation; they afford no avenue to the study of individual differences.
1477. **Rugg, Harold.** Is the rating of human character practicable? *Journal of educational psychology*, 12: 425-38, 485-501, November, December 1921.  
Gives a résumé of rating systems in vogue, especially the Army rating scale, which the first article analyzes. In regard to the reliability and practicability of rating human character, the writer argues that it is practically impossible to secure ratings on point scales which are reliable estimates of character.
1478. **Snoddy, George S. and Hyde, George E.** Mental survey of Utah schools and adaptation of the army Beta tests. Pub. by Department of psychology, University of Utah, in co-operation with Utah state board of insanity. [Salt Lake City, U. of U. press, 1921] 27, [1] p. Incl. tables, diagrs. 8°. (Bulletin of the University of Utah. vol. 12, Sept., 1921. no. 6.)
1479. **Stenquist, John L.** The case for the low I. Q. *Journal of educational research*, 4: 241-54, November 1921.  
Points out some of the fallacies in the present-day conception of intelligence tests. Cites cases of illustrious men who were denominated "school failures." Criticizes intelligence tests as narrow and academic in scope, being founded mainly on school success.
1480. **Thurstone, L. L.** A cycle-omnibus intelligence test for college students. *Journal of educational research*, 4: 265-78, November 1921.  
The writer used scholarship grades instead of intelligence as a criterion for mental tests for college freshmen. He declares that for the purpose of group testing of intelligence, the scholarship grades are perhaps the best available objective criterion.
1481. **Tybjerg, Christian H.** Investigations undertaken by the Society for experimental pedagogy in Denmark. *Journal of educational research*, 4: 301-7, November 1921.  
The society has conducted the following important investigations: Retention and reaction in relation to mentality; the ideals of children; spare-time reading of children; physical condition of children and the effect of the summer vacation, etc.
1482. **Yeung, Kwok T.** The intelligence of Chinese children in San Francisco and vicinity. *Journal of applied psychology*, 5: 267-74, September 1921.  
In this investigation the Stanford revision of the Binet tests was used. A comparison was also made of the intelligence ratings of Chinese and American children of similar social status.

### EDUCATIONAL TESTS AND MEASUREMENTS.

1483. **Brooks, Samuel S.** Measuring the progress of pupils by means of standardized tests. *Journal of educational research*, 4: 161-72, October 1921.  
Study based on tests made in the schools of Winchester, N. H.
1484. **Camp, Harold Laverne.** Scales for measuring results of physics teaching. Iowa City, The University [1921] 51p. 8°. (University of Iowa studies in education, vol. II, no. 2.)  
On cover: University of Iowa studies, 1st. ser. no. 54, October 1, 1921.  
Bibliography: p. 51.

1485. **Dolch, Edward W., jr.** The measurement of high-school English. *Journal of educational research*, 4: 279-86, November 1921.  
Discusses the difficulties of such tests. Says that after the English problem is completely understood, then real plans can be made for measuring results; analysis of conditions must come first, and after that scientific measurements.
1486. **Franzen, Raymond, and Knight, F. B.** Criteria to employ in choice of tests. *Journal of educational psychology*, 12: 408-12, October 1921.
1487. **Grupe, Mary A., and Smith, Elsa M.** The use of educational measurements in the training department of the State normal school, Ellensburg, Washington. *Educational administration and supervision*, 7: 517-26, December 1921.  
Says that the data show that a training department in which student-teachers do most of the teaching can become as efficient in the so-called fundamental subjects as any other school.
1488. **Hoover, J. H.** Motivated drill work in third-grade arithmetic and silent reading. *Journal of educational research*, 4: 200-11, October 1921.  
Study based on the play instinct as evidenced in games and dramatization. Arithmetic and reading games utilized.
1489. **Jordan, Riverda H.** Variation of marking systems as diagnosed by objective tests. *Journal of educational research*, 4: 173-79, October 1921.  
Study based on school marks taken from the teachers' classroom registers for ten schools in Minneapolis, involving records of 2,076 pupils.
1490. **Lewis, Ervin Eugene.** Scales for measuring special types of English composition. Yonkers-on-Hudson, N. Y., World book company. 1921.  
144 p. tables. 12°. (School efficiency monographs)
1491. **Lindsay, E. E.** Comparative scoring and recording of educational tests. *Educational administration and supervision*, 7: 427-32, November 1921.  
Suggests a method whereby the scoring of the different tests can be made comparable. Each of the tests now in vogue uses a system of scoring entirely separate and distinct from any other.
1492. **Lindsay, Mary D., and Gamsby, Ruth S.** Where test scores and teachers' marks disagree. *School review*, 29: 679-87, November 1921.  
An analysis of a group test in the Palo Alto (Calif.) union high school. The Terman group test was given to all the students; at the same time an estimate of the work of each student in each subject was given by the teacher in charge.
1493. **Oakerson, W. M.** The place of standard tests and measurements in the efficiently managed school system. *Missouri school journal*, 38: 466-71, December 1921.  
The paper deals with standard measurements as applied to school room work.
1494. **Pressey, Luella C.** A first report on two diagnostic tests in silent reading for grades II to IV. *Elementary school journal*, 22: 204-11, November 1921.  
Says that the most important causes of lack of ready assimilative reading in the first four grades are: (1) Lack of vocabulary; and (2) persistence of oral-reading habits. The tests were made on the basis of this analysis.
1495. **Pressey, Sidney L., and Cayco, Florentino.** Three refinements of method in school surveys. *Educational administration and supervision*, 7: 433-38, November 1921.



1495. **Pressey, Sydney L., and Cayco, Florentine—Continued.**

Points out "the inadequacy, as a means for investigating the educational efficiency of a school or school system, of (a) statements of retardation, or other summaries of the age-grade distribution, (b) measurement of achievement without reference to evenness of development, or (c) measurement of ability without detailed statement of the correlation between ability and achievement in individual cases."

1496. **Thorndike, Edward L.** Measurement in education. Teachers college record, 22: 371-79, November 1921.

An address delivered at the opening exercises of Columbia university, September 28, 1921.

1497. **Van Wagenen, M. J.** The Minnesota English composition scales; their derivation and validity. Educational administration and supervision, 7: 481-99, December 1921.

Describes a plan for the construction of three sets of English composition scales, each set of specimens in the scales "to be independently evaluated for thought content, for sentence and paragraph structure, and for mechanical perfection." The scales were used in an investigation in the secondary schools of Minnesota, during the school year 1917-18, "to measure the amount of improvement that would result as a consequence of theme writing systematically carried out through a period of several weeks."

1498. **Weeks, Angelina L.** Terman vocabulary as a group test. Journal of educational psychology, 12: 532-36, December 1921.1499. **Wyman, J. Benson, and Wendle, Miriam.** What is reading ability? Journal of educational psychology, 12: 518-31, December 1921.

An effort to get at a method by which to determine whether the so-called reading tests *do* measure reading ability. Says that none of the English tests has as high reliability as the Terman group test.

## SPECIAL METHODS OF INSTRUCTION.

## VISUAL INSTRUCTION.

1500. **Handschin, W. F.** Visual instruction in agricultural education. Moving picture age, 4: 18-19, 32, December 1921.

A paper read at the first annual meeting of the National academy of visual instruction, by Mr. Handschin, who is director of agricultural extension, University of Illinois.

1501. **Turner, C. E.** An evaluation of visual education. Visual education, 2: 4-9, November 1921.

Prepared for publication in the Tufts college graduate by the assistant professor of biology and public health, Massachusetts institute of technology.

## OTHER METHODS.

1502. **Moore, Clyde B.** A demonstration school. Survey, 47: 211, 214, November 5, 1921.

Purpose and activities of the University demonstration schools of the University of Pittsburgh, which endeavors "to assist boys and girls in the selection, promotion and realization of those activities yielding the largest life values."

1503. **Parkhurst, Helen.** The Dalton laboratory plan. Journal of education and School world (London) 53: 694-96, November 1921.

The Dalton plan demands that the instructors shall outline the work of the year (the curriculum of projects), so that "each pupil may know and understand the scope and nature of the work that he, as a member of a form, is expected to accomplish."

## SPECIAL SUBJECTS OF CURRICULUM.

## READING.

1504. **Courtis, S. A.** Analysis of reading ability. *Journal of educational research*, 4: 287-93, November 1921.

Describes the conclusions upon which the Detroit construction work in silent reading is at present based.

1505. **Hosic, James Fleming.** Empirical studies in school reading, with special reference to the evaluation of literary reading books. New York city, Teachers college, Columbia university, 1921. viii, 174 p. tables, diags. 8° (Teachers college, Columbia university, Contributions to education, no. 114)

1506. **Parker, Samuel C.** How to teach beginning reading. *Elementary school journal*, 22: 175-88, 255-68, November, December 1921.

Third and fourth articles, concluding a series.

1507. **Smith, Franklin O.** A silent reading survey. *Inter-mountain educator*, 17: 51-55, October 1921.

The report of an investigation authorized by the Educational council of the Inland empire teachers' association.

1508. **Sorrenson, Fred S.** Thought presentation in oral reading. *Education*, 42: 219-26, December 1921.

Says that the initial step in satisfactory oral reading consists in efficient thought-gathering and presentation.

## SPELLING.

1509. **Andersen, William Niclaus.** Determination of a spelling vocabulary based upon written correspondence. Iowa City, The University [1921] 66 p. 8°. (University of Iowa studies in education, vol. II, no. 1)

On cover: University of Iowa studies, 1st. ser. no. 52, July 1, 1921.

Bibliography: p. 63-66.

1510. **Newark.** Board of education. Spelling survey in the public schools of Newark, N. J. Newark, N. J., Board of education, 1920. 32 p. incl. tables, diags. 8°. (On cover: Monograph no. 7)

## ENGLISH AND COMPOSITION.

1511. **Chicago.** Board of education. Education division. English in the elementary schools. . . September, 1921. Peter A. Mortenson, superintendent. 1 p. l., 147 p. 8°. (Bulletin no. 21)

1512. **Great Britain.** Committee to inquire into the position of English in the educational system of England. The teaching of English in England; being the report of the departmental committee appointed by the president of the Board of education to inquire into the position of English in the educational system of England. London, His Majesty's stationery office, 1921. xv, 394 p. 12°.

1513. **Hosic, James F.** An experiment in cooperation. II. Reading with a purpose. III. Reading as study. *Journal of educational method*, 1: 13-16 October: 102-7, November 1921.

1514. Scudder, Harold H. Practical English. Educational review, 62: 402-9, December 1921.

Criticises the method of teaching English in the public schools. Says that the only means of making headway against faulty English is to thoroughly train the teaching force. Emphasises the shortcomings of so-called "practical English" or "business English."

1515. Snyder, Alice D. The best and the worst students. English journal, 10: 505-10, November 1921.

The English department of Vassar college is using a method known as the "Freshman English shift" which has been found satisfactory in meeting the special needs of the best and worst students.

1516. Standard usage in English. Standards of capitalization, punctuation, handwriting, spelling, and sentence structure, required of all classes in the University high school, by the Department of English, University high school, University of Chicago. Chicago, Ill. The University of Chicago press [1921] 25 p. 8°.

1517. Woodruff, N. L. The teaching of English in the high school. Kentucky high school quarterly, 8: 16-27, August 1921.

#### ANCIENT CLASSICS.

1518. Godley, A. D. Greek in extremis. Nineteenth century, 90: 986-94. December 1921.

Status of Greek in English universities and secondary schools described. A plea for the classics.

1519. Gray, Mason D. The function of Latin in the secondary curriculum. Classical journal, 17: 52-65, November 1921.

A plea for the study of Latin based on its practical, cultural, and disciplinary values.

1520. Great Britain. Committee to inquire into the position of classics in the educational system of the United Kingdom. Report of the committee appointed by the prime minister to inquire into the position of classics in the educational system of the United Kingdom. London, His Majesty's stationery office, 1921. xxii, 308 p. 8°.

1521. Wiswall, C. Carlotta. An experiment in vocational Latin. Classical journal, 17: 87-93, November 1921.

Teaching Latin to pupils in commercial courses. Effect of the study in increasing the vocabulary of pupils.

#### MODERN LANGUAGES.

1522. Bridge, G. F. French and German in higher education. Contemporary review, 120: 805-10, December 1921.

Discusses the decline of humanistic studies in England. Says that the modern languages do not give the student a firm foundation on which to base the intellectual life. Recommends that two languages and literatures should be placed on a level one with the other, as Greek and Latin are in the classical schools, and that the course of reading should be designed to develop the whole mind of the student.

1523. Hoskins, J. Preston. The medium of instruction in college courses in the modern languages. Modern language journal, 6: 74-83. November 1921.

1524. Krumpelman, John T. Why study German? High school journal, 4: 147-49, November 1921.

Reasons why German should be taught in schools and colleges.

1525. **Olmstead, E. W.** A justification of modern languages in our schools. *Modern language journal*, 6: 1-11, October 1921.  
Address given before the Modern language teachers of the Central West and South, May 1921.
1526. **Onís, Federico de.** Memoria del curso 1920-1921 presentada al consejo general ejecutivo. Madrid, Nueva York, 1921. 59 p. 12°. (Junta para ampliación de estudios. Institute de las Españas en los Estados unidos.)
1527. **Spiker, Claude C.** The foreign language teacher as a national asset in reconstruction. *Modern language journal*, 6: 65-73, November 1921.  
The value of the profession of foreign language teaching as a national asset.

## MATHEMATICS.

1528. **National council of teachers of mathematics.** National committee on mathematical requirements. College entrance requirements in mathematics. Preliminary report. *Mathematics teacher*, 14: 224-45, May 1921.
1529. **Breslich, E. R.** Testing as a means of improving the teaching of high-school mathematics. *Mathematics teacher*, 14: 276-91, May 1921.  
Does not refer to "the so-called standardized test, but to the ordinary class examination, or class test."
1530. **Davis, Alfred.** Teaching pupils how to study mathematics. *Mathematics teacher*, 14: 311-20, October 1921.  
Says among other things that the pupil must have enough information about the assigned work to convince him of its importance and to arouse his interest in it.
1531. **Marsh, John A.** The relative standing of mathematical and nonmathematical pupils. *Educational administration and supervision*, 7: 458-66, November 1921.  
Relative standing in second and third year high-school work of two groups of pupils in the English high school, Boston, Mass. Says that in their work of the second and third years the pupils who had studied mathematics in their first year manifested a distinct superiority over those who had not studied mathematics.
1532. **Minnick, J. H.** The aims of mathematical education. *Mathematics teacher*, 14: 297-304, October 1921.  
Says the school should give to each child such "a knowledge of mathematics as will serve as a basis for future preparation, if progress in his work should demand it."
1533. **Terry, Paul W.** The reading problem in arithmetic. *Journal of educational psychology*, 12: 365-77, October 1921.  
An investigation of the methods employed by children in the gradual acquirement of the power of reading numerals.

## SCIENCE.

1534. **Franklin, William S.** What is the matter with physics teaching? *Science*, n. s. 54: 475-79, November 18, 1921.  
Also in *Engineering education*, 12: 134-42, November 1921.  
Contents that students dislike physics because they accomplish so little in the study of it in elementary college courses. The writer says the reason for this is because the simple, fundamental, mathematical ideas and methods which constitute elementary physics are not properly emphasized in the class room, and not presented with clearness and brevity in textbooks.

1535. **Johnson, E. H.** The present status of the history of science in American colleges and universities. *Science*, n. s. 54: 585-95, December 16, 1921.  
Study based on a questionnaire sent to nearly 400 colleges and universities. Says that replies show the need of adequate textbooks on the history of science.
1536. **Loomis, Alice M., and Carr, Ida F.** A course in general science for vocational home economics schools. *General science quarterly*, 6: 284-92, November 1921.
1537. **Webb, Hanor A.** General science instruction in the grades. Pt. I. A quantitative analysis of general science texts. Pt. II. The reaction of children of the last three grammar grades to science. Nashville, Tenn., George Peabody college for teachers [1921] 105 p. 8°. (George Peabody college for teachers. Contributions to education, no. 4)

## GEOGRAPHY.

1538. **Chicago.** Board of education. Education division. Elementary social science, geography, history. September, 1921. Peter A. Mortenson, superintendent of schools. [Chicago, 1921] cover-title, 64 p. 8°.
1539. **Peattie, Roderick.** Introductory geography for colleges. *Journal of geography*, 20: 318-20, November 1921.  
An analysis of the elements of environment should be the basis of study.

## HISTORY.

1540. **Pierce, Bessie L.** A survey of methods courses in history. *Historical outlook*, 12: 315-18, December 1921.  
The results of a questionnaire sent out by the writer.

## PHILOSOPHY AND SOCIOLOGY.

1541. **Bogardus, Emory S.** Problems in teaching sociology. *Journal of applied sociology* (Los Angeles) 6: 19-24, December 1921.
1542. **Brown, William Adams.** The future of philosophy as a university study. *Journal of philosophy*, 18: 673-82, December 8, 1921.

## MUSIC.

1543. **Kirk, John R.** Preparation of music supervisors. Shall they have a balanced college education? *School music*, 22: 7-10, November 1921.  
Given before the meeting of the National education association, July 1921.
1544. **Hadow, Henry.** The place of music in a liberal education. *School and society*, 14: 272-78, October 8, 1921.  
Address at the Edinburgh meeting of the British association for the advancement of science.

## ART.

1545. **Fliedner, Helen M.** Some of the things the Cleveland public schools are doing in art. Cleveland O., Division of publications, Board of education, 1921. 32 p. illus. 12°. ([Cleveland. Board of education.] Monograph no. 11)

## DRAMATICS.

1546. The drama a recognized college subject. *School life*, 7: 29-30, October 1921.  
A review of what colleges and universities are doing to further and increase interest in theater arts.

- 1547. Haynes, Ernest F.** The drama course in the University high school. School review, 29: 746-57, December 1921.

Discusses a course in drama organized as an elective English offering for juniors and seniors of the University high school, University of Chicago, in 1917. Presents an outline for study and report on play, with short bibliography of playmaking, stagecraft, and collection of plays.

- 1548. Knapp, Margaret C.** The school play. English leaflet, 21: 1-12, December 1921.

- 1549. Stratton, Clarence.** Producing in little theaters. New York, H. Holt and company, 1921. 258 p. front., plates. 12°.

"Educational dramatics": chapter XI, p. 197-224.

#### SAFETY.

- 1550. Maris, Clarence.** Dangers and chemistry of fire. Prepared under the direction of Vernon M. Riegel, superintendent of public instruction. Columbus, Ohio, The F. J. Heer printing co., 1921. 2 v. 8°.

CONTENTS: [v. 1] For primary schools.—[v. 2] For grammar schools.

#### KINDERGARTEN AND PRIMARY SCHOOL.

- 1551. Robinson, Isabel.** A project in community life in the kindergarten. Elementary school journal, 22: 194-203, November 1921.

An experiment tried in the kindergarten of the university elementary school, School of education of the University of Chicago. Projects were suggested by the children as an outcome of their building a toy city, such as schools, churches, banks, theatres, bakery, etc.

#### RURAL LIFE AND CULTURE.

- 1552. Hoag, Emily F.** The national influence of a single farm community. A story of the flow into national life of migration from the farms. Washington, Government printing office, 1921. 55 p. plates. maps. 8°. (U. S. Department of agriculture. Bulletin no. 984, December 1, 1921.)

Shows the wide influence which people migrating from Belleville, Jefferson county, N. Y., have exerted on American life in general.

#### RURAL EDUCATION.

- 1553. Rural life conference.** Proceedings of . . . called by his Excellency, Honorable Westmoreland Davis, in the Hall of the House of delegates, May 17-18, 1921. 105 p. 8°. (University of Virginia record. Extension series. vol. 6, no. 11, October 1921)

Contains: 1. Discussion. Equality of educational opportunity for the rural school child, p. 20-28.

- 1554. Bagley, William C.** Aims of rural education. American school, 7: 200-1, 211, October 1921.

The rural school should endeavor to acquaint its pupils with occupations other than agricultural.

- 1555. Baltimore county, Md. Board of school commissioners . . .** Course of study, Baltimore county, Maryland, public schools. Grades I to VIII. Prepared by Lida Lee Tall and Isobel Davidson, under the direction of Albert S. Cook, superintendent. Baltimore, Warwick & York, Inc., 1921. 698 p. 8°.

At head of title: 1921 revision.

1556. **Carney, Mabel.** The status of rural education in the United States. A memorandum. *American child*, 3: 274-80, November 1921.  
Statistical data on the subject.
1557. **Hayes, A. W.** The community value of the consolidated school. *Southern school work*, 10: 36-39, September 1921.  
The author concludes that the consolidated school offers the best solution for the construction of a rural community.
1558. **Holloway, William J.** Why supervise rural schools? *Virginia journal of education*, 15: 97-100, 118, November 1921.  
Reasons given why rural schools should be supervised.
1559. **Payne, Bruce B.** The rural school as a neglected yet fundamental and necessary American enterprise. *Texas school journal*, 39: 9-11, September 1921.  
A severe arraignment of the country school's lack of greater public interest and help.
1560. **Shuler, Marjorie.** Truth about rural schools in New York state. *American review of reviews*, 64: 641-44, December 1921.  
Discusses the results of a survey made by the New York state league of women voters, in cooperation with the State department of education.

## SECONDARY EDUCATION.

1561. **National association of secondary school principals.** Fifth yearbook, 1921. Pub. by the Association; [Menasha, Wis., George Banta publishing company] 1921. xxxviii, 69 p. 8°. (H. V. Church, secretary-treasurer, J. Sterling Morton high school, Cicero, Ill.)  
Contains: 1. E. D. Lyon: The submerged tenth, p. 1-7. 2. C. C. Tillinghast: The scope of moral education in secondary schools, p. 7-14. 3. J. R. Powell: Social problems in the high school, p. 15-24. 4. J. L. Tildsley: Some possibilities arising from the use of intelligence tests, p. 45-54. 5. F. H. J. Paul: The growth of character through participation in extra-curriculum activities, p. 54-60.
1562. **Counts, George S.** The selective principle in American secondary education. *School review*, 29: 657-67, November 1921.  
Based on a study of the high-school populations of four cities: Bridgeport, Conn.; Mt. Vernon, N. Y.; St. Louis, Mo.; and Seattle, Wash. Gives classification of occupations of parents, character of the cities studied, etc. To be continued.
1563. **Davis, Jesse B.** A survey of the organization and administration of high schools in the state of Connecticut. Hartford, Conn., State board of education, 1921. 37 p. 12°. (On cover: State board of education. High school bulletin 1. Series 1921-1922.)
1564. **Fuller, J. B.** The junior high school in X, Michigan. *American schoolmaster*, 14: 327-38, November 1921.  
Describes a high school located in a small rural community of Michigan, the town of X, which according to the census of 1920 has 1,888 inhabitants, and is the center of a prosperous agricultural district.
1565. **Jones, J. D. B.** Free secondary education. *School review*, 29: 758-60, December 1921.  
Writer gives his experiences in South Africa. Comments on Dr. Judd's article in *School review* for February 1921, on "The American experiment of free higher education."

- 1566. Koos, Leonard V.** The junior high school and the elementary school. Educational review, 62: 309-16, November 1921.  
Says that the effect of a general introduction of the junior high school plan upon the elementary school is highly advantageous to the latter.
- 1567. Newlon, Jesse H.** High school fraternities. Educational administration and supervision, 7: 372-79, October 1921.  
The author believes that there is not one good thing to be said for the high school secret society.
- 1568. Roemer, Joseph.** A study of Florida high schools. Issued by the Department of secondary education. [Gainesville, Fla., The University, 1921] 29 p. tables. 8°. (On cover: University record, vol. xvi, no. 4. Extra no. 1)
- 1569. Slack, S. A.** The junior high school movement and its relation to modern education. Inter-mountain educator, 17: 56-62, October 1921.  
A careful explanation and survey of the junior high school.
- 1570. Smithey, W. R.** The organization of the junior high school. High school quarterly, 10: 43-50, October 1921.
- 1571. Spain, Charles L.** The intermediate school in Detroit, by Charles L. Spain, Arthur B. Moehlman and H. L. Harrington. [Detroit, Board of education 1921] 39 p. incl. plans. 8°. (The Detroit educational bulletin. Research bulletin, no. 6. December, 1921)

## TEACHER TRAINING.

- 1572. Burgess, W. Randolph.** The rate of progress in teacher preparation. Journal of educational research, 4: 180-86, October 1921.  
Discusses the improvement in the education of teachers in service in 10 states since 1910.
- 1573. Good, Harry G.** The legal status of supervised teaching. Educational review, 62: 298-308, November 1921.  
Says that the legal status of teacher-training will not be improved until the public is convinced of its value. Emphasizes the practical training of high school teachers.
- 1574. Miller, H. L.** The problem of preparing high school teachers. Kansas teacher and Western school teacher, 13: 11-13, December 1921.
- 1575. Scott, Z. E.** The great need of our schools—Better teaching. How to secure it. Journal of the New York state teachers' association, 8: 160-67, October 1921.  
"To have better teaching, it is most essential that one accept the principle that teachers can continually improve while in service."
- 1576. Waples, Douglas.** Teaching teachers to "motivate." Educational administration and supervision, 7: 439-46, November 1921.  
Describes the aim, content, organization, and results of a semester course in "motivation" as conducted experimentally by the education department of an arts-and-science college under the title, "educational psychology."

## TEACHERS' SALARIES AND PROFESSIONAL STATUS.

- 1577. Adams, John.** The new organization of teachers in England. Educational review, 62: 285-97, November 1921.  
Organization and work of the Registration council, which was established by an order of the Privy council, February, 1912.



1578. **Bixby, Herbert D.** The ethics of the teaching service. [Cleveland] Division of publications, Cleveland board of education, 1921. 16 p. 12°. ([Cleveland. Board of education.] Monograph no. 27)]
1579. **Bonner, H. R.** Salaries of teachers in four-year high schools in 1918 and 1921. American school board journal, 63: 56-57, December 1921.
1580. **Brooks, Samuel S.** Measuring the efficiency of teachers by standardized tests. Journal of educational research. 4: 255-64, November 1921.  
Recognizes five main factors in a teacher's efficiency: (1) Managing ability; (2) natural aptitude for the work; (3) method and technic of teaching; (4) industry and interest in work; (5) personality.
1581. **Brubacher, A. R.** The teaching personality quotient. American education, 25: 108-12, November 1921.  
A personality study is proposed. The projective power of plus characteristics is what wins success and determines the size of the teaching personality quotient.
1582. **Eaves, Lucile, ed.** Old-age support of women teachers. Provisions for old age made by women teachers in the public schools of Massachusetts. A study by the department of research of the Women's educational and industrial union. Boston, Mass., 1921. 122 p. graphs, tables. 8°. (Studies in economic relations of women, vol. XI)
1583. **Hawes, E. B.** Problems of high school certification of public schools. Ohio teacher, 42: 53-55, October 1921.  
A discussion of the eleven certificates issued for high school teaching, the author advocating three only, namely, the provisional, life and three year certificate issued by examination.
1584. **Hillyer, Thomas A.** The teacher and partisan activity. Educational administration and supervision, 7: 421-26, November 1921.
1585. **Hurt, Huber William.** Self-help in teaching; a study of the teacher-learner partnership. New York, The Macmillan company, 1921. 98 p. 16°.
1586. **Johnson, S. W.** The teacher's load. American school board journal, 63: 36-39, November; 43-44, 112, December 1921.  
An attempt to find a median or fair estimate of the common practice for assignment of work to teachers.
1587. **Jones, Olive M.** The relation of the principal to the teacher and standards for judging the effectiveness of teaching. School and society, 14: 469-77, November 26, 1921.  
Given at meeting of National association of elementary school principals, Des Moines, July 1921.
1588. **McConn, Max.** The genus professor. Nation, 113: 537-39, November 9, 1921.  
An article along humorous lines in which the writer differentiates four principal types or species of the university professor: (1) *Professor antiquus*; (2) *professor germanicus*; and (3) *professor uptodaticus*.
1589. **Mendenhall, Edgar.** Development and use of a teacher-rating employment card. Techne, 4: 5-11, June 1921.
1590. **Rich, F. M.** Better selection of prospective teachers. American school board journal, 63: 33-34, October 1921; 39-40, November 1921.
1591. **Sears, J. B.** Teacher participation in public school administration. American school board journal, 63: 29-32, 113-14, October 1921.  
Teachers should participate in the formulation of school policies, participation being in the form of "staff" service, but should not have power to make final decisions as to policy.

1592. **Wentzel, W. A.** A proposed plan for teacher rating. High school quarterly, 10: 26-35, October 1921.

Disatisfaction with the ratings of teachers has been because the ratings have been "on subjective estimates of certain qualities, with no reference to the quality of the teacher's product."

### HIGHER EDUCATION.

1593. **American association of university professors.** Bulletin, vol. 7, no. 6, October 1921. Cambridge, Mass., American association of university professors, 1921. 55 p. 8°. (H. W. Tyler, secretary, 222 Charles river road, Cambridge, Mass.)

Contains: 1. Preliminary report of committee H, on increased migration and interchange of graduate students, p. 16-20. 2. Preliminary report of committee W, on status of women in college and university faculties, p. 21-32. 3. Recent educational discussion, p. 33-51.

1594. **Association of American colleges.** Addresses at seventh annual meeting, held at New York city, January 6, 7, 8, 1921. Chicago, Ill., Association of American colleges, 1921. 118 p. 8°. (*Its* Bulletin, vol. 7, no. 3, April 1921.) (Robert L. Kelly, executive secretary, 111 Fifth avenue, New York city)

Contains: 1. B. B. Brown, C. A. Richmond, Mary B. Woolley, J. B. Angell: The college contribution to American education, p. 5-25. 2. David Mackenzie, Wilson Farrand: Types of junior colleges and their relation to senior colleges, p. 28-47. 3. Frank Nicolson, Frank Aydelotte: Report of the Association commission on faculty and student scholarship, p. 48-77. 4. R. C. Flickinger: Report of the commission of the council of church boards of education on academic freedom and tenure of office, p. 81-87. 5. G. F. Zoak: Higher education and training for citizenship, p. 88-101. 6. F. W. Lewis: Reasons why students choose particular colleges, p. 106-18.

1595. **Abbott, Wilbur C.** The guild of students. Atlantic monthly, 128: 618-25, November 1921.

"In these two things—closer cooperation between the guild of scholars and the guild of students, and acceptance of the obligations of their system by the undergraduates and the alumni—seems to lie the only perceptible basis for the proper development of the future college and university. But there is a third—the recognition of this problem for what it is; an integral part, not only of the situation as it exists, but of the education of our youth in its entirety."

1596. **Aydelotte, Frank.** Better training for our best minds. School and society, 14: 387-92, November 5, 1921.

Inaugural address of the president of Swarthmore college, October 1921.

1597. **Bevan, Ralph H.** International universities: The tested remedy for war and the H. C. L. American Oxonian, 8: 125-32. October 1921.

1598. **Brumm, John Lewis, ed.** Educational problems in college and university. Addresses delivered at the educational conference held at the University of Michigan, October 14, 15, and 16, 1920, on the occasion of the inauguration of President Marion LeRoy Burton. Ann Arbor, The University of Michigan, 1921. 296 p. 8°.

1599. **Buck, Philo M., jr.** American universities and liberal culture. Educational review, 62: 410-21, December 1921.

Says that the universities are suffering from an excess of administrative machinery to the neglect of the teaching function.

1600. **Emerton, Ephraim.** Learning and living, academic essays. Cambridge, Harvard university press; London, H. Milford, 1921. vii, 325 p. 12°.

1601. **Farrand, Livingston.** Universities and the world crisis. School and society, 14: 379-87, November 5, 1921.

Inaugural address of President Farrand, of Cornell university, October 1921.

1602. **Gilbreth, Frank B., and Gilbreth, L. M.** The work of fatigue elimination in colleges. Nation's health, 3: 675-77, December 1921.

Describes work at Swarthmore college and the establishment of Fatigue elimination day as one of the special functions of the institution.

1603. **Koos, Leonard V., and Crawford, C. C.** College aims past and present. School and society, 14: 499-509, December 3, 1921.

1604. **Macmillan, Cyrus.** McGill and its story 1821-1921. London, John Lane; New York, John Lane company [etc.] 1921. 304 p. plates. 8°.

A history of McGill university near Montreal, Canada.

1605. **Bose, J. Holland.** Impressions of American universities. Contemporary review, 120: 644-51, November 1921.

The writer, who delivered a short course of lectures at American universities during April-August, 1921, says that the relations between cities and their universities in the United States are closer and more vital than in England.

1606. **Stewart, George W.** A problem in the education of college students of superior ability. School and society, 14: 439-47, November 19, 1921.

Answers the question, "How can the opportunities afforded by the college to students of superior ability be increased?"

1607. **Stimpson, George W.** The story of Valparaiso university, including an account of the recent period of turbulence. With an introduction by Jacob B. Farris. [Chicago] The author, 1921. 167 p. front., illus. 12°.

1608. **Tatlock, John S. P.** The intellectual interests of undergraduates. University of California chronicle, 23: 364-91, October 1921.

The writer does not share the violent pessimism of many persons who are writing about present college education.

1609. **Vold, Lauriz.** Legal separation of function in university organization. Quarterly journal of the University of North Dakota, 12: 63-87, October 1921.

The paper discusses how far the law has provided for separation of function in university organization as affecting the University of North Dakota with special reference to discipline.

1610. **Williams, Stanley T.** Why not teach freshmen? North American review, 214: 817-24, December 1921.

Emphasizes with humorous comments the joys of teaching freshmen.

## RESEARCH.

1611. **Kellogg, Vernon.** The National research council. Educational review, 62: 365-73, December 1921.

Describes the establishment, organization, and functions of the council, which was founded in 1916 under the auspices of the National academy of sciences. In 1918 it was invited by an executive order of the President of the United States to reorganize and perpetuate itself as a peace-time organization "to stimulate research in mathematics, physical and biological sciences," etc.

## SCHOOL ADMINISTRATION.

1612. **Alexander, Carter, and Theisen, W. W.** Publicity campaigns for better school support. *Yonkers-on-Hudson, N. Y., World book company, 1921.* vii, 164 p. illus. 12°. (School efficiency monographs)  
 Selected bibliography: p. 151-58.  
 Presents the principles and procedures underlying the operation of successful school publicity campaigns in communities of every size. Also analyzes as definitely as possible the causes of failure of unsuccessful campaigns.
1613. **Bowman, E. L.** Graphic aids to school administration. *American school board journal*, 63: 29-31. December 1921.  
 This is the first of a series of articles.
1614. **Lindsay, E. E.** School support in Iowa. *Educational administration and supervision*, 7: 500-9, December 1921.  
 Partial findings of a study of school finance in Iowa bearing on taxation. Says that consolidated schools have a much lighter taxation burden than city schools.
1615. **Russell, William F.** The financial situation in Iowa schools. *Elementary school journal*, 22: 189-93, November 1921.  
 Says that compared with the data for last year, the percentage of local funds devoted to school purposes has increased, except in the case of the lower half of the larger cities.
1616. **Seligman, Edwin R. A.** Sources of increased revenues for education. *Trained men* (Scranton, Pa.) 1: 204-206, 209, December 1921.  
 An article by the McVickar professor of political economy, Columbia university.

## SCHOOL MANAGEMENT.

1617. **Carter, Ralph E.** Teaching a study-habit. *School review*, 29: 695-706, 761-75, November, December 1921.  
 Discusses the direct method of teaching a study-habit. Summarizes the advantages of the direct and indirect methods of teaching a study-habit as contrasted with the incidental way which relies on chance rather than systematic training.
1618. **Freeman, Frank N.** Bases on which students can be classified. *School review*, 29: 735-45, December 1921.  
 Says that tests, school work, and teachers' judgments should be used conjointly in estimating a pupil's abilities, etc., supplemented with a study of the pupil's health and physical strength, as well as home conditions and general environment.
1619. **Garver, Francis Marion.** Misplacement of children in grades six, seven, eight in a large city school system. [Philadelphia, 1921] 57 p. incl. tables, diagrs. 8°.
1620. **Jackson, Nelson A.** Pupil government in secondary schools. *Education*, 42: 197-210, December 1921.  
 Study based on a questionnaire sent to teachers and school officials. Says the movement is spreading, but that the present generation will not accept the idea, except to experiment with it here and there.

## SCHOOL BUILDINGS AND GROUNDS.

1621. **Munby, Alan E.** Improvements in secondary-school buildings. *Journal of education and School world* (London) 53: 703-6, 765-68. November, December 1921.

- 1622 **Strayer, George D.** Report of the survey of the public school system of Baltimore, Maryland. Vol. 1. Survey of the public school buildings and school building program for Baltimore, Maryland, by George Drayton Strayer, N. L. Engelhardt [and] Edward S. Evenden. [Baltimore] 1921. 373 p. illus., maps, tables. 8°.
1623. **Whitney, Frank P.** Housing Cleveland's school children. [Cleveland] Division of publications, Cleveland board of education, 1921. 28 p. illus. 8°.

### SCHOOL HYGIENE AND SANITATION.

1624. **Blanton, Smiley.** Speech defects in school children. Mental hygiene, 5: 820-27, October 1921.  
Says that speech correction offers one of the best methods of approach to mental hygiene in the schools.
1625. **Bureau of educational experiments, New York.** Health education and the nutrition class; a report of the Bureau of educational experiments. Descriptive and educational sections by Jean Lee Hunt. Studies of height and weight and mental measurements, by Buford J. Johnson. Report on physical examinations 1919-20, by Edith M. Lincoln. New York, E. P. Dutton & company [1921] xv, 281 p. plates, charts. 12°.
1626. **Dukes, Clement.** School hygiene fifty years ago. London, Adlard & son & West Newman, ltd., 1921. 8 p. 8°.  
Reprinted from School hygiene, London, November 1921.  
Describes school hygiene conditions in England fifty years ago as compared with today.
1627. **Hoefer, Carolyn.** Methods of health instruction in the second and third grades. Elementary school journal, 22: 212-22, November 1921.  
Presents a program for teaching health principles; and gives three methods for measuring the result of teaching health habits.
1628. **Hutt, C. W.** Hygiene for health visitors, school nurses & social workers. London. Methuen & co., [1921] 382 p. illus. 12°.
1629. **Macdonald, V. May.** Mental health of children. American journal of nursing, 22: 90-92, 174-76, November, December 1921.  
Second paper of series discusses healthy and unhealthy habits. Third paper discusses the stimulus from success, support from confidence, etc.
1630. **Mitchell, Harold H.** The need for special health protection of employed adolescents. American journal of public health, 11: 973-78, November 1921.  
Discusses health protection for pupils in continuation schools; for adolescents in general; and compares the condition of working children with non-workers.
1631. **New York. State library, Albany.** Books on health as related to the school child. 2d ed. rev. Albany, University of the state of New York, 1921. cover-title, 37 p. 8°. (Bibliography bulletin 69)  
University of the state of New York bulletin . . . 729 . . . March 1, 1921.
1632. **Payne, E. George, ed.** Education in health; by members of the faculty, Harris teachers college, St. Louis. Chicago, New York, Lyons and Carnahan [1921] 253 p. illus. 12°.

## PHYSICAL TRAINING.

1633. **Dickey, C. W.** Physical education plants for public schools. *Nation's health*, 3: 629-80, November 1921.  
Discusses physical education in the planning of the new public schools of Oakland, Calif. Illustrated.
1634. **Thaler, William H.** The relation of physical education to a national health program. *Education*, 42: 176-89, November 1921.

## PLAY AND RECREATION.

1635. **Shreves, Rolland M.** Educational uses of the play motive. *Education*, 42: 211-18, December 1921.  
Says that play needs careful direction and control, but not interference. Emphasizes the value of play as an incentive to work, etc.

## SOCIAL ASPECTS OF EDUCATION.

1636. **Carver, Thomas Nixon.** Principles of national economy. Boston, New York [etc.] Ginn and company [1921] 773 p. 8°.   
Contains material on educated citizens as a national asset.
1637. **Ensign, Forest C., and others.** Parent and teacher. Iowa City, The University [1921] 79 p. 8°. (University of Iowa. Extension division bulletin no. 76.)
1638. **Marrs, J. Wyatt.** A high school social center; history and description of the social and recreation work of the La Salle-Peru township high school. La Salle, Peru, Oglesby, Illinois. [La Salle, 1921] 46 p. illus., ports. 8°.
1639. **Parsons, R. B.** A study of current practice as to parent-teacher associations. School review, 29: 688-94, November 1921.  
A study based on data obtained from 50 different schools and school systems in 21 states; undertaken largely from the high-school viewpoint. Such associations can be made most valuable, if they are regarded as responsible agents in the direction of definite school and community activities.
1640. **Beavis, W. C.** Organized publicity in support of schools. Elementary school journal, 22: 223-27, November 1921.  
Gives program that was carried out in 1918-21 in the city of Alton, Illinois.
1641. **Robinson, James Harvey.** The mind in the making; the relation of intelligence to social reform. New York and London, Harper & brothers [1921] 235 p. 8°.
1642. **Tigert, John James.** The fundamentals of success. Open road, 3: 11-12, November 1921.  
Preceded on page 10 by a biographical sketch of Dr. Tigert, with portrait.  
According to this article, the first great fundamental of success is ability, which includes health and mental vigor. Other fundamentals of success are initiative, perseverance, integrity, and education. The value of each of these elements is analyzed by the writer.
1643. **Williams, J. T.** Education in recent sociology. *Education*, 42: 145-58, 231-42, November, December 1921.  
Sixth paper of series discusses the place of education in the sociology of Prof. Hayes, as outlined in his "Introduction to the study of sociology" and "Sociology and ethics." The final article gives a résumé of the series.

## CHILD WELFARE.

1644. **Bossard, James H. S., ed.** Child welfare. Philadelphia, American academy of political and social science, 1921. ix, 222 p. 8°. (Annals of the American academy of political and social science. vol. XCVIII, no. 187, November 1921)

Contains: The public school as a social agency—1. Arnold Gesell: Public school provision for exceptional children, p. 78–81. 2. Jane F. Culbert: The visiting teacher, p. 81–89. 3. Anna Beach Pratt: The relation of the teacher and the social worker, p. 90–96.

1645. **Hall, Mrs. Harriet T.** Physical welfare of crippled children in the public schools of Cleveland. American physical education review, 26: 362–67, November 1921.

Read before the Therapeutic section, American physical education association convention, July 1921.

1646. **Hyde, Robert R.** The boy in industry and leisure. London, G. Bell and sons, ltd., 1921. 281 p. 12°. [Social service library, ed. by C. R. Attlee. II]

"Bibliography": p. 272–81.

1647. **Servanté, F. A.** The psychology of the boy. 2d ed. London, Gay & Hancock, ltd., 1921. 86 p. 12°.

CONTENTS: The normal boy.—The bad boy.—The adolescent boy.

## RELIGIOUS AND CHURCH EDUCATION.

1648. **Catholic educational association.** Report of the proceedings and addresses of the eighteenth annual meeting, Cincinnati, Ohio, June 27, 28, 29, 30, 1921. Columbus, Ohio, Catholic educational association, 1921. 664 p. 8°. (Catholic educational association bulletin. vol. xviii, no. 1. November, 1921)

Contains: 1. A. G. Schmidt: The philosophy of standardization, p. 68–83. Discussion, p. 82–88. 2. A. C. Fox: The trend of the colleges, p. 115–30. 3. K. C. Babcock: Variables in higher educational organization, p. 132–38. 4. G. F. Zook: The movement toward the standardization of colleges and universities, p. 139–48. 5. J. A. Dunney: Education for citizenship, p. 168–91. Discussion, p. 191–97. 6. J. J. Harbrecht: The forces and factors of control in parish school education, p. 221–36. 7. J. A. O'Brien: The pedagogical value of educational measurements, p. 245–65. 8. W. A. Kane: Cooperating with public officials, p. 286–89. Discussion by W. J. Lessard, p. 289–90. 9. George Johnson: A plan of teacher certification, p. 388–94. 10. Sister M. Catherine: The higher education of women under Catholic auspices, p. 429–40.

1649. **Athearn, Walter S.** The history, progress and present status of the survey of religious education by the American religious education survey department of the Interchurch world movement. [New York, 1920] 31 p. 8°.

1650. **Cather, Katherine Dunlap.** Story telling for teachers of beginners and primary children. New York, Printed for the Teacher training publishing association by the Caxton press [1921] 144 p. 16°.

A textbook in the standard course in teacher training, outlined and approved by the Sunday school council of evangelical denominations. Third year specialisation series.

1651. **Hartshorne, Hugh.** Cooperative study of the religious life of children; a guide to parents, teachers, and investigators. Religious education, 16: 337–46, December 1921.

1652. **Peters, Charles C.** Notes on methods of isolating scientifically the objectives of religious education. Pedagogical seminary, 28:369-81, December 1921.

### MANUAL AND VOCATIONAL TRAINING.

1653. **Western arts association.** Proceedings of the meetings held at Peoria, Ill., May 3-6, 1921. Twenty-seventh annual report, 1921. (Bulletin of the Western arts association, vol. 4, no. 4)  
Contains: 1. C. A. Prosser: The mission of art education in the public schools. p. 32-39. 2. Hester A. Allyn: The content of a high school course in food, p. 46-50. 3. C. A. Bennett: Can the public schools prepare for occupations in the field of the fine arts? p. 66-71.
1654. **Bach, Richard F.** Industrial arts in the colleges. Educational review, 62:317-23, November 1921.  
Importance of emphasizing the history, philosophy, design, and economics of the industrial arts as related to a general education.
1655. **Chapman, J. Crosby.** Trade tests; the scientific measurement of trade proficiency. New York, H. Holt and company, 1921. ix, 435 p. illus. 12°.
1656. **Flinn, Alfred D.** The relation of the technical school to industrial research. Science, n. s. 54:508-10, November 25, 1921.
1657. **Klenke, William W.** Art and education in wood-turning; a textbook and problem book for the use of students. Peoria, Ill., Manual arts press [1921] 110 p. illus. 8°.
1658. **Newark high school men's association.** Committee report on technical and vocational courses of study. [Newark, N. J.] 1921. 50 p. 8°.
1659. **Smith, K. G.** Establishing a state program of part-time education. Manual training magazine, 23:107-10, October 1921.  
The writer believes that the only way the smaller cities can make their instruction vocational is by supervised employment and instruction under shop conditions.
1660. **U. S. Federal board for vocational education.** Fifth annual report to Congress, 1921. Washington, Government printing office, 1921. 462 p. fold. charts, tables. 8°.  
CONTENTS.—Section I. General survey of the work of the Board.—Section II. States relations services: (a) Cooperation with the states in the promotion of vocational education. (b) Vocational rehabilitation of persons disabled in industry or otherwise.—Section III. Vocational rehabilitation of disabled soldiers, sailors, and marines.

### VOCATIONAL GUIDANCE.

1661. **Bureau of vocational information, New York.** Statistical work; a study of opportunities for women. . . New York city, The Bureau of vocational information [1921] 154p. incl. tables. 8°.
1662. **Cohen, I. David.** Vocational guidance in the continuation school. Educational foundations, 33:3-4, 17-20, November 1; 5-7, 19-20, December 15, 1921.
1663. **Shidle, Norman G.** Finding your job, sound and practical business methods. New York, The Ronald press company, 1921. xii, 183p. 12°.



1664. **Tanner, William R.** Occupational survey. Los Angeles, Cal., Los Angeles city school district, June 1921. 180p. 8°.

Report to the Los Angeles Board of education by the temporary occupational coordinator appointed to survey the conditions of work and wages in and about Los Angeles. The book includes bibliographies.

1665. **Wallenstein, Edna.** An attempt at vocational testing. Educational review, 62:392-401, December 1921.

Describes an experiment conducted by the Board of education of New York city, the purpose of which is to give vocational tests to determine the vocational aptitudes of young people about to enter upon a high school or technical school course or about to enter the commercial and industrial fields in the capacity of workers.

1666. **Watts, Frank.** The construction of tests for the discovery of vocational fitness. Journal of applied psychology, 5:240-52, September 1921.

Says that the successful construction of tests for the discovery of vocational fitness must largely depend upon an accurate psychological analysis of the various occupations followed by men and women.

### WORKERS' EDUCATION.

1667. **Hewes, Amy.** New wine in old bottles. Survey, 47:372-73, December 3, 1921.

Discusses the summer school for women workers in industry, established by Bryn Mawr college in July 1921.

1668. **Shafer, Robert.** Working people's education. North American review, 214:786-94, December 1921.

Activities of the Bryn Mawr college summer school for women workers in industry. The control of the school was vested in a joint administrative committee composed of representatives of industrial workers, of the college, and of the alumnae.

1669. **Sweeney, Charles Patrick.** Adult working-class education in Great Britain and the United States; a study of recent developments. Washington, Government printing office, 1920. 101 p. 8°. (U. S. Department of labor. Bureau of labor statistics. Bulletin no. 271, miscellaneous series)

### AGRICULTURE.

1670. **Allen, Frederick J.** Studies of occupations in agriculture, forestry, and animal industry. Prepared under the auspices of the Bureau of vocational guidance, Graduate school of education, Harvard university. Cambridge, Harvard university. 1921. x, 39 p. 8°.

1671. **Dadisman, Samuel H.** Methods of teaching vocational agriculture in secondary schools. Boston, R. G. Badger [1921] 142 p. front., plates. 12°.

1672. **Stevens, Neil E.** America's first agricultural school. Scientific monthly, 13:531-40, December 1921.

Historical sketch of the Gardiner lyceum, Maine, founded by Robert H. Gardner, in the year 1822.

### HOME ECONOMICS.

1673. **U. S. Federal board for vocational education.** The home project, its use in home-making education. October, 1921. Issued by the Federal board for vocational education, Washington, D. C. Washington, Government printing office, 1921. 76 p. 8°. (Bulletin no. 71. Home economics series no. 6)

"Prepared by Miss Genevieve Fisher:" p. 4.

## COMMERCIAL EDUCATION.

1674. Barton, J. W. Smaller vs. larger units in learning to typewrite. *Journal of educational psychology*, 12: 465-74, November 1921.
1675. Hanson, Charles C. A business man's criticism of our public school system. *Oklahoma school herald*, 29: 1-4, December 1921.  
Most of those who go into business for themselves fail to make good. The author believes that the fault lies with the school system not fitting the pupil for the vocation of business.
1676. Reigner, Charles G. Beginnings of the commercial school. *Education*, 42: 133-44, November 1921.  
Historical sketch of commercial schools in the United States.
1677. Tilden, C. V., ed. Proceedings of a conference on highway traffic regulation held at Yale university under the auspices of the Highway and highway transport education committee, May 23, 1921. Washington, D. C., Pub. by the committee, 1921. 46 p. graphs. 8°.   
Contains: Harriet E. Beard: Some results of safety education in grade schools, p. 23-27.

## MEDICAL EDUCATION.

1678. Clarke, Ethel P. Schools of nursing as educational institutions. *Trained nurse and hospital review*, 67: 417-22, November 1921.
1679. Holmes, S. J. Education in relation to public health and medical practise. *Science*, n. s. 54: 503-8, November 25, 1921.  
Urges a wider campaign of health education in the public schools.
1680. Wilson, Robert, jr. The educational preparation for medicine. *Birmingham, Ala.*, 1921. 20 p. 12°.   
Reprinted from the *Southern medical journal*, 14: 640-45, August 1921.  
A paper read in the conference on medical education, Southern medical association, Louisville, Ky., November, 1920.

## ENGINEERING EDUCATION.

1681. Bayner, W. H. The relative importance of topics in surveying instruction. *Engineering education*, 12: 57-85, October 1921.  
A study to determine the relative value of topics which compose the subject-matter of elementary courses in surveying.

## CIVIC EDUCATION.

1682. McAndrew, William. The belated revolution in the public schools. *World's work*, 43: 108-12, November 1921.  
Progress in Americanism through the medium of the public schools; study of civics, etc.
1683. McPheters, George A. Citizenship dramatized; a bit of brightening for the study of civil government, by George A. McPheters, and Grace J. A. Cleaveland assisted by Stella W. Jones. New York, H. Holt and company [1921] vi, 188 p. 12°.

## EDUCATION OF WOMEN.

1684. Southern association of college women. Proceedings of the sixteenth biennial meeting. Washington, D. C., March 29-April 2, 1921. 64 p. 8°. (Mrs. Charles Spencer, secretary, Edgewood, Birmingham, Ala.)

1685. Jennings, Elma F. The work of dean of girls. Ohio educational monthly, 70: 238-43, October 1921.

An exposition of the duties of a dean of girls, with the main thought being that a dean should be a power and not a figurehead.

1686. Whitney, Marian P. The higher education of women in Italy. Educational review, 62: 374-81, December 1921.

Says that American women will have no difficulty in being received into any university courses in Italy, but that at present it is almost impossible to find adequately prepared Italian women who are ready to come to the United States to work in our colleges or universities either on scholarships or as teaching fellows.

### NEGRO EDUCATION.

1687. Dyson, Walter. The founding of Howard university. Washington, D. C., Howard university press, 1921. 24 p. fold. plan. 8°. (Howard university. Studies in history. no. 1. June 1921.)

1688. Lyford, Carrie A. Home economics for Negro girls. Southern workman, 50: 513-18, November 1921.

Discusses the purpose of home-economics training; the planning for courses; preparation of teachers, etc.

### EDUCATION OF DEAF.

1689. American association for the hard of hearing. Proceedings of the second annual meeting, Boston, June 8-10, 1920. Volta review, 23: 471-91, November 1921.

Gives brief extracts of the papers read, reports of committees, etc.

1690. White, H. T. Some things that are needed in teaching the deaf children of Illinois. American annals of the deaf, 66: 440-52, November 1921.

### EXCEPTIONAL CHILDREN.

1691. Goddard, Henry H. Juvenile delinquency. New York. Dodd, Mead & company, 1921. vi, 120 p. 12°.

1692. Horn, John L. Caring for highly endowed pupils. School review, 29: 776-81, December 1921.

A study based on an experiment being tried in the school department of Oakland, Calif., by means of connectors and special adjustments of the curricula to the needs of school children. Says that more than 95 per cent of the pupils go on to high schools after the completion of the eighth grade under the stimulus of these efforts.

1693. Wallin, J. E. W. Suggested rules for special classes. Educational administration and supervision, 7: 447-57, November 1921.

These rules were prepared by the writer for the State superintendent of schools of Missouri, and adopted by him in their entirety.

### EDUCATION EXTENSION.

1694. Gorell, Ronald Gorell Barnes, *3d baron*. Education and the army; an essay in reconstruction. London [etc.] H. Milford, Oxford University press, 1921. 291 [1] p. 8°.

Deals with the origin, development, and purpose of the adult education movement in the British army, which was organized and directed by the author of this book.

1695. Harap, Henry. A summer school program for city children. Educational administration and supervision, 7: 467-79, November 1921.

Work undertaken for the Hudson guild summer play school, New York City.

1696. **Yeaxlee, Basil A.** Working out the Fisher act, the human aspect of the continuation schools. London, New York [etc.] H. Milford, Oxford university press, 1921. 96 p. 12°. At head of title: The world of to-day.

## LIBRARIES AND READING.

1697. **American library association.** Papers and proceedings of the 43d annual meeting. . . held at Swampscott, Mass., June 20-25, 1921. Chicago, Ill., American library association, 1921. [93]-260 p. 4°. (*Its Bulletin*, vol. 15, no. 4, July 1921)  
Contains: 1. Alice S. Tyler: President's address—Some aspects of library progress, p. 95-100. 2. H. M. Towner: Libraries and the nation, p. 106-8. 3. C. F. D. Belden: The public libraries and the special libraries, p. 108-11. 4. C. W. Eliot: Adult education—a letter, p. 116-17.
1698. **Brown, Gilbert L.** The case against myths, folk-lore, and fairy stories as basal reading for children. Education, 42: 150-65, November 1921.  
Questions the advisability of teaching myths, folk-lore, and fairy stories to children as a beginning in literature.
1699. **Smith, Elva S.** Some present-day problems of book selections. Public libraries, 26: 585-92, December 1921.  
Considerations on the selection of books for young people, presented in the Children's librarians' section of the American library association, at Swampscott, Mass., June 1921.
1700. **Tandy, Jennette R.** College teaching of elementary bibliography. Educational review, 62: 382-91, December 1921.

## BUREAU OF EDUCATION: RECENT PUBLICATIONS.

1701. Business training and commercial education; by Glen Levin Swiggett. Washington, 1921. 17 p. (Bulletin, 1921, no. 43.)  
Advance sheets from the Biennial survey of education in the United States, 1918-1920.
1702. Developments in nursing education since 1918; by Isabel M. Stewart. Washington, 1921. 20 p. (Bulletin, 1921, no. 20)  
Advance sheets from the Biennial survey of education in the United States, 1918-1920.
1703. Educational reconstruction in Belgium; by Walter A. Montgomery, Washington, 1921. 12 p. (Bulletin, 1921, no. 39)  
Advance sheets from the Biennial survey of education in the United States, 1918-1920.
1704. Educational survey of Elizabeth City, North Carolina. Summary of conclusions and recommendations. Washington, 1921. 43 p. (Bulletin, 1921, no. 26)  
A digest of the report of a survey of the public schools of Elizabeth City, N. C., made at the request of the Board of school trustees, under the direction of the United States Commissioner of education.
1705. The housing and equipment of kindergartens. Washington, 1921. 27 p. plates. (Bulletin, 1921, no. 13)  
This bulletin was prepared with the co-operation of a committee of the International kindergarten union, Miss Grace L. Brown being chairman, and with the help of Miss Grace M. Janney.
1706. Monthly record of current educational publications. Index, February, 1920-January, 1921. Washington, 1921. 27 p. (Bulletin, 1921, no. 31)  
An index to the 10 numbers of the record, February, 1920-January, 1921, equipping the series for use as an annual bibliography of education for 1920.

1707. Opportunities for study at American graduate schools; by George F. Zook and Samuel P. Capen. Washington, 1921. 49 p. (Bulletin, 1921, no. 6.)  
For the use of prospective foreign students and others desiring information regarding graduate study in America.
1708. Pharmaceutical education; by Wortley F. Rudd, in collaboration with P. F. Fackenthall. Washington, 1921. 15 p. (Bulletin, 1921, no. 11)  
Advance sheets from the Biennial survey of education in the United States, 1918-1920.
1709. Present status of music instruction in colleges and high schools, 1919-20. Washington, 1921. 54 p. (Bulletin, 1921, no. 9.)  
Report of a study made under the direction of the United States Bureau of education by a joint committee of the National education association, Music teachers' national association, and Music supervisors' national conference. Osbourne McConathy, chairman; Karl W. Gehrken, Edward B. Birge.
1710. State laws and regulations governing teachers' certificates; by Katherine M. Cook. Washington, 1921. 244 p. (Bulletin, 1921, no. 22)  
Contains a tabular digest of the provisions of State laws and regulations concerning teachers' certificates, with an introduction and bibliography.



C

DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1921, No. 53

STATISTICS OF STATE UNIVERSITIES  
AND STATE COLLEGES

FOR THE YEAR ENDED  
JUNE 30, 1921



WASHINGTON  
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# STATISTICS OF STATE UNIVERSITIES AND STATE COLLEGES.

For the Year Ending June 30, 1921.

This annual bulletin, formerly prepared and published by the National Association of State Universities, has been published by the Bureau of Education for the past 13 years. The data given are taken from reports received from the offices of the presidents of the various institutions, and the figures printed are substantially as given in those reports.

## Directory of State universities and State colleges.<sup>1</sup>

[Names in *italics* are institutions endowed by the Federal Government under the Morrill Acts.]

Location.	Name.	President.
Auburn, Ala.	<i>Alabama Polytechnic Institute.</i>	Spright Dowell, LL. D.
Montevallo, Ala.	<i>Alabama Technical Institute and College for Women.</i>	T. W. Palmer.
University, Ala.	<i>University of Alabama.</i>	George H. Denny, LL. D.
Tucson, Ariz.	<i>University of Arizona.</i>	
Fayetteville, Ark.	<i>University of Arkansas.</i>	John C. Futrell, LL. D.
Berkeley, Calif.	<i>University of California.</i>	David P. Barrows, LL. D.
Boulder, Colo.	<i>University of Colorado.</i>	George Norlin, LL. D.
Fort Collins, Colo.	<i>Colorado Agricultural College.</i>	Chas. A. Lory, LL. D.
Golden, Colo.	<i>Colorado School of Mines.</i>	Victor C. Alderson, Sc. D.
Storrs, Conn.	<i>Connecticut Agricultural College.</i>	Charles L. Beach, B. S.
Newark, Del.	<i>University of Delaware.</i>	Walter Hüllihen, Ph. D.
Gainesville, Fla.	<i>University of Florida.</i>	Albert A. Murphy, LL. D.
Tallahassee, Fla.	<i>Florida State College for Women.</i>	Edward Conradi, Ph. D.
Athens, Ga.	<i>University of Georgia.</i>	David C. Barrow, LL. D., chancellor.
Atlanta, Ga.	<i>Georgia School of Technology.</i>	
Augusta, Ga.	<i>Medical College of Georgia.</i>	Wm. H. Doughty, jr., M. D., dean.
Dahlonaga, Ga.	<i>North Georgia Agricultural College.</i>	Gustavus R. Glenn, LL. D.
Honolulu, Hawaii.	<i>University of Hawaii.</i>	Arthur L. Dean, Ph. D.
Moscow, Idaho.	<i>University of Idaho.</i>	Alfred H. Upham, Ph. D.
Pocatello, Idaho.	<i>Idaho Technical Institute.</i>	Charles R. Frazier, B. L.
Urbana, Ill.	<i>University of Illinois.</i>	David Kinley, LL. D.
Bloomington, Ind.	<i>Indiana University.</i>	William L. Bryan, LL. D.
La Fayette, Ind.	<i>Purdue University.</i>	Henry W. Marshall, acting.
Ames, Iowa.	<i>Iowa State College of Agriculture and Mechanic Arts.</i>	Raymond A. Pearson, LL. D.
Iowa City, Iowa.	<i>State University of Iowa.</i>	Walter A. Jessup, Ph. D.
Lawrence, Kans.	<i>University of Kansas.</i>	Ernest H. Lindley, Ph. D., chancellor.
Manhattan, Kans.	<i>Kansas State Agricultural College.</i>	William M. Jardine, LL. D.
Lexington, Ky.	<i>University of Kentucky.</i>	Frank L. McVey, LL. D.
Baton Rouge, La.	<i>Louisiana State University and Agricultural and Mechanical College.</i>	Thomas D. Boyd, LL. D.
Orono, Me.	<i>University of Maine.</i>	
College Park, Md.	<i>University of Maryland.</i>	Alfred F. Woods, D. Agri.
Amherst, Mass.	<i>Massachusetts Agricultural College.</i>	Kenyon L. Butterfield, LL. D.
Cambridge, Mass.	<i>Massachusetts Institute of Technology.</i>	Elihu Thompson, Sc. D., acting.
Lowell, Mass.	<i>Lowell Textile School.</i>	Charles H. Eames, B. S.
Ann Arbor, Mich.	<i>University of Michigan.</i>	Marion Le Roy Burton, LL. D.
East Lansing, Mich.	<i>Michigan Agricultural College.</i>	David Friday, A. B.
Houghton, Mich.	<i>Michigan College of Mines.</i>	Fred W. McNair, Sc. D.
Minneapolis, Minn.	<i>University of Minnesota.</i>	Lotus D. Coffman, Ph. D.
Agricultural College, Miss.	<i>Mississippi Agricultural and Mechanical College.</i>	David C. Hull, M. Sc.
Columbus, Miss.	<i>Mississippi State College for Women.</i>	J. C. Fant, Ph. D.
University, Miss.	<i>University of Mississippi.</i>	Joseph N. Powers, chancellor.

<sup>1</sup> Corrected to Apr. 3, 1922, in so far as changes have been reported to this bureau.



*Directory of State universities and State colleges—Continued.*

Location.	Name.	President.
Columbia, Mo.	<i>University of Missouri.</i>	John C. Jones, LL. D.
Bozeman, Mont.	<i>Montana College of Agriculture and Mechanic Arts.</i>	Alfred Atkinson, D. Sc.
Butte, Mont.	Montana State School of Mines.	George W. Craven, B. S.
Missoula, Mont.	University of Montana.	Charles H. Clapp, Ph. D.
Lincoln, Nebr.	<i>University of Nebraska.</i>	Samuel Avery, LL. D., chancellor.
Reno, Nev.	<i>University of Nevada.</i>	Walter E. Clark, LL. D.
Durham, N. H.	<i>New Hampshire College of Agriculture and Mechanic Arts.</i>	Ralph D. Hetzel, LL. D.
New Brunswick, N. J.	<i>Rutgers College.</i>	Wm. H. S. Demarest, LL. D.
Albuquerque, N. Mex.	University of New Mexico.	David S. Hill, LL. D.
Socorro, N. Mex.	New Mexico School of Mines.	Edgar H. Wells, B. S.
State College, N. Mex.	<i>New Mexico College of Agriculture and Mechanic Arts.</i>	Harry L. Kent, M. S.
Albany, N. Y.	New York State Library School.	James I. Wyer, jr., director.
Ithaca, N. Y.	<i>Cornell University.</i>	Livingston Farrand, LL. D.
Syracuse, N. Y.	New York State College of Forestry (at Syracuse University).	Franklin Moon, M. F.
Chapel Hill, N. C.	University of North Carolina.	Harry W. Chase, LL. D.
Greensboro, N. C.	North Carolina College for Women.	Julius I. Foust, LL. D.
West Raleigh, N. C.	<i>North Carolina College of Agriculture and Engineering.</i>	Wallace C. Riddick, LL. D.
Agricultural College, N. Dak.	<i>North Dakota Agricultural College.</i>	Edward F. Keene, M. E., acting.
University, N. Dak.	University of North Dakota.	Thomas F. Kane, LL. D.
Athens, Ohio.	Ohio University.	Elmer B. Bryan, LL. D.
Columbus, Ohio.	<i>Ohio State University.</i>	Wm. O. Thompson, LL. D.
Oxford, Ohio.	Miami University.	Raymond M. Hughes, M. S.
Chickasha, Okla.	Oklahoma College for Women.	G. W. Austin, B. S.
Norman, Okla.	<i>University of Oklahoma.</i>	Stratton D. Brooks, Ph. D.
Stillwater, Okla.	<i>Oklahoma Agricultural and Mechanical College.</i>	James B. Eskridge, Ph. D.
Corvallis, Oreg.	<i>Oregon State Agricultural College.</i>	Wm. J. Kerr, Sc. D.
Eugene, Oreg.	University of Oregon.	Prince L. Campbell, A. B.
State College, Pa.	<i>Pennsylvania State College.</i>	John M. Thomas, LL. D.
San Juan, P. R.	<i>University of Porto Rico.</i>	Paul G. Miller.
Kingston, R. I.	<i>Rhode Island State College.</i>	Howard Edwards, LL. D.
Charleston, S. C.	Medical College of the State of South Carolina.	Robert Wilson, jr., M. D., deam.
Do.	The Citadel, the Military College of South Carolina.	O. J. Bond, A. M., supt.
Clemson College, S. C.	<i>Clemson Agricultural College.</i>	Walter M. Riggs, LL. D.
Columbia, S. C.	University of South Carolina.	Wm. S. Currell, LL. D.
Rock Hill, S. C.	Winthrop College.	David B. Johnson, LL. D.
Brookings, S. Dak.	<i>South Dakota State College of Agriculture and Mechanic Arts.</i>	Willis E. Johnson, LL. D.
Rapid City, S. Dak.	South Dakota State School of Mines.	Cleophas C. O'Harra, Ph. D.
Vermillion, S. Dak.	University of South Dakota.	Robert L. Slagle, Ph. D.
Knoxville, Tenn.	<i>University of Tennessee.</i>	Harcourt A. Morgan, LL. D.
Austin, Tex.	University of Texas.	Robert E. Vinson, LL. D.
College Station, Tex.	<i>Agricultural and Mechanical College of Texas.</i>	Wm.-B. Bizzell, D. C. L.
Denton, Tex.	College of Industrial Arts.	F. M. Bralley, LL. D.
Logan, Utah.	<i>Agricultural College of Utah.</i>	Elmer G. Peterson, Ph. D.
Salt Lake City, Utah.	University of Utah.	George Thomas, Ph. D.
Burlington, Vt.	<i>University of Vermont and State Agricultural College.</i>	Guy W. Bailey, LL. D.
Blacksburg, Va.	<i>Virginia Polytechnic Institute.</i>	Julian A. Burruss, A. M.
Charlottesville, Va.	University of Virginia.	Edwin A. Alderman, LL. D.
Lexington, Va.	Virginia Military Institute.	Edward W. Nichols, supt.
Richmond, Va.	Medical College of Virginia.	Stuart McGuire, M. D.
Williamsburg, Va.	College of William and Mary.	Julian A. C. Chandler, LL. D.
Pullman, Wash.	<i>State College of Washington.</i>	Ernest O. Holland, Ph. D.
Seattle, Wash.	University of Washington.	Henry Suzzallo, LL. D.
Morgantown, W. Va.	<i>West Virginia University.</i>	Frank B. Trotter, LL. D.
Madison, Wis.	<i>University of Wisconsin.</i>	Edward A. Birge, LL. D.
Laramie, Wyo.	<i>University of Wyoming.</i>	Aven Nelson, Ph. D.

TABLE 1.—The teaching force in State universities and State colleges for the year 1920-21.

Names of institutions.	Professors and instructors.			President's salary.	Maximum and minimum salaries.														House in addition to salary for—	
	Men.	Women.	Total.		Deans.		Professors.		Associate professors.		Assistant professors.		Instructors.		Assistants.		Tutors and others.		President.	Professors.
					Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Alabama Polytechnic Institute.....	102	2	104	\$5,000	\$4,000	\$4,000	\$3,600	\$2,800	\$2,700	\$2,300	\$2,400	\$2,000	\$2,000	\$1,500			\$450	\$150	Yes.	0
Alabama Technical Institute and College for Women.....	6	33	39	5,000	2,000		2,400	1,150	1,800	1,200	1,600	945								
University of Alabama.....	82	3	85	7,300	5,000	4,000	3,600	3,000	3,000	2,400	2,400	1,800	1,800	1,500	\$300					
University of Arizona.....	64	27	91	10,500	5,000	3,200	3,800	2,600	3,000	2,100	2,800	1,800	2,100	1,500	1,200	900				
University of Arkansas.....	76	17	93	7,000	4,500	4,250	4,000	3,000	2,900	2,600	2,500	2,100	2,000	1,600						
University of California.....	834	182	1,016																	
University of Colorado.....	198	32	230	7,500	4,400	3,500	3,800	2,500	2,950	2,400	2,500	1,000	1,800	1,200	900	300	150			
Colorado Agricultural College.....	54	22	76	7,500	3,900		3,900	2,600	3,033	2,300	2,400	1,800	2,000	1,200						
Colorado School of Mines.....	23	0	23	6,000			3,800	2,300	3,000	2,000	2,700	1,800	1,500	1,500	900					
Connecticut Agricultural College.....	50	16	66	6,000	4,254	3,250	4,250	2,250	3,000	2,000	3,250	2,500	3,000	2,000	1,500	750				
University of Delaware.....	45	12	57	7,000	4,400	2,500	3,600	2,500	2,750	2,400	2,500	2,000	2,500	1,400	1,300	450	900	310		
University of Florida.....	71	0	71	5,000	2,700	2,400	2,500	2,200				1,000	1,800	1,600	1,200					
Florida State College for Women.....	12	29	41	5,000	2,700	2,400	3,600	2,600	2,100	1,800	1,700	1,500	1,200	1,200	300	100	1,000	600	Yes.	1
University of Georgia.....	80	6	86	6,000	4,000	2,000	3,600	3,300	2,850	2,550	2,500	2,000	1,800	1,650			850	650	Yes.	1
Georgia School of Technology.....	108	0	108	7,500	4,000	3,800	4,000				3,200	2,000	1,800	1,600	300					
Medical College of Georgia.....	45	0	45						1,600										No.	0
North Georgia Agricultural College.....	13	2	15	2,500	2,100		2,000												No.	0
University of Hawaii.....	24	5	29	6,000	4,200		4,200	2,700			3,000	2,100	2,500	1,500			500			
University of Idaho.....	83	17	100	7,500	4,700	3,200	3,700	2,700	2,800	2,400	2,300	2,000	1,700	1,600						
Idaho Technical Institute.....	21	12	33	5,000	3,200	2,650	3,500	2,200			2,000	1,700	1,650	1,400						
University of Illinois.....	660	120	780	12,000	8,500	4,000	6,000	3,800	3,900	2,700	3,500	2,500	2,500	2,000	2,100	1,200			Yes.	0
Indiana University.....	184	35	219	8,500	5,500	3,300	4,900	3,800	4,000	3,000	3,500	2,500	2,500	2,000	2,000					
Purdue University (Ind.).....	220	21	241		6,000	3,000	3,600	1,800	3,000	2,200	3,500	1,800	2,000	1,600	1,400	600				2
Iowa State College of Agriculture and Mechanic Arts.....	396	116	512	10,000	5,500	3,750	6,000	300	4,000	1,500	3,275	1,600	2,500	200	1,500	150			Yes.	7
State University of Iowa.....	284	74	358	10,000	6,500	4,500	6,500	2,750	4,000	2,750	3,500	1,750	3,000	1,200	2,000	1,200			Yes.	0
University of Kansas.....	250	65	315	10,000	5,750	3,600	4,500	2,900	2,800	2,400	2,300	1,800	1,700	1,400	1,200	600			Yes.	0

\* Maximum and minimum salaries for adjunct professors, \$3,000 and \$1,700.

† For adjunct professors.

# STATE UNIVERSITIES AND STATE COLLEGES.

Names of institutions.	Professors and instructors.		President's salary.		Maximum and minimum salaries.												House in addition to salary for—			
	Men.	Women.	Total.	Deans.		Professors.		Associate professors.		Assistant professors.		Instructors.		Assistants.		Tutors and others.		President.	Professors.	
				Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.			Maximum.
Kansas State Agricultural College.....	165	70	235	\$8,000	\$5,400	\$3,300	\$5,000	\$2,500	\$3,650	\$2,000	\$3,000	\$1,600	\$2,600	\$900	\$2,000	\$800	\$500	Yes.	0	
University of Kentucky.....	121	23	144	10,000	6,500	4,000	3,300	1,500	3,000	2,400	2,500	1,400	2,400	1,100				Yes.	0	
Louisiana State University and Agricultural and Mechanical College.....	64	21	85	7,500	5,500	4,160	4,000	3,128	3,420	2,400	2,520	1,800	2,500	600	360	270		Yes.	0	
University of Maine.....	102	16	118	6,000	4,400	3,500	3,500	2,600	3,000	2,500	2,500	1,900	1,700	1,500				Yes.	0	
University of Maryland.....	170	7	177	10,000	3,200	4,000	3,500	3,100	3,000	2,600	2,500	2,000	1,800	1,600	900			Yes.	0	
Massachusetts Agricultural College.....	79	4	83	7,500	5,000	4,200	4,200	3,000	3,180	2,820	2,820	2,000	1,980	1,320				Yes.	0	
Massachusetts Institute of Technology.....	305	6	311															Yes.	0	
Lowell Textile School (Mass.).....	31	1	32	4,500			4,000	3,060			3,000	2,280	1,980	1,200	500	350		No.	0	
University of Michigan.....	536	7	543	18,000	10,000	4,500	10,000	3,900	3,500	3,500	4,500	2,500	2,500	1,500	1,000	250		Yes.	0	
Michigan Agricultural College.....	171	27	198	8,000	6,000	5,500	5,500	3,500	4,200	2,800	3,600	2,400	2,900	1,200				Yes.	0	
Michigan College of Mines.....	24	0	24	5,000			4,000	4,000	3,100	3,000	2,800	2,400	2,700	1,800	1,200			Yes.	7	
University of Minnesota.....	712	125	837	12,000	5,594		3,845				3,034	2,379	1,822		982			Yes.	0	
Mississippi Agricultural and Mechanical College.....	114	10	124	6,000	4,500	3,500	3,300	2,500	2,400	1,800	1,800	1,500	1,500	1,000				Yes.	0	
Mississippi State College for Women.....	5	64	69	6,000	3,000	3,600	3,600	2,000	3,600	2,750	2,000	1,800					250	150	Yes.	0
University of Mississippi.....	36	2	38	6,000	3,600	3,600	3,600	2,500	3,600	2,750	2,000	1,800							Yes.	0
University of Missouri.....	64	22	86	6,000	4,500	2,700	3,600	2,500			2,400	2,100	2,000	1,500	1,600	1,200		No.	2	
Montana College of Agriculture and Mechanic Arts.....	11	0	11	4,500			4,000	3,000	3,000	2,900	2,800	2,000	2,000	1,500				No.	1	
Montana State School of Mines.....	50	17	67	6,000	4,000	2,400	3,300	2,760	2,760	2,500	2,400	1,800	2,800	1,800				No.	0	
University of Nebraska.....	328	74	402	8,400	6,000	2,500	5,000	2,200	3,000	2,000	3,000	2,400	2,700	1,200	2,400	720		Yes.	0	
University of Nevada.....	57	12	69	12,000	4,200	3,600	3,600	3,000	2,750	2,250	2,500	2,000	2,250	1,800	1,000	200		Yes.	0	
New Hampshire College of Agriculture and Mechanic Arts.....	65	11	76	7,000	3,700	3,000	3,450	2,600	2,700	2,100	2,700	2,000	2,300	1,200	900			Yes.	0	
Rutgers College (N. J.).....	96	9	105	6,000	1,200	600	5,000	3,300	2,600	2,600	2,500	1,500	2,500	1,500				Yes.	0	
University of New Mexico.....	24	10	34	5,000	2,800	2,800	2,800	2,150	2,600	2,225	2,500	2,050	1,800	1,400				No.	0	
New Mexico School of Mines.....	8	0	8	3,750			3,000	2,300			1,800							No.	0	
New Mexico College of Agriculture and Mechanic Arts.....	38	9	47	6,000	3,000	2,700	2,460	1,620			2,040	1,620	1,665	1,350				Yes.	0	

**STATE UNIVERSITIES AND STATE COLLEGES.**

4	8	12	1,000	6,250	3,500	2,500	2,100	1,000	750	175	Yes	1
839	66	903	12,000	7,500	1,000	6,250	3,500	2,500	2,100	1,000	Yes	1
New York State Library School												
Cornell University (N. Y.)												
New York State College of Forestry (at Syracuse University)												
122	30	6,000	4,750	3,500	4,000	3,000	2,750	2,000	1,900	1,500	Yes	0
University of North Carolina												
17	58	76	6,000	4,000	3,800	1,800	3,600	2,750	2,250	2,000	No.	0
North Carolina College for Women												
North Carolina College of Agriculture and Engineering												
83	0	83	6,000	4,500	4,000	3,600	3,000	2,750	2,000	2,000	No.	0
University of North Dakota												
19	78	7,000	4,000	3,300	3,000	2,800	2,500	2,000	1,800	1,500	Yes	0
North Dakota Agricultural College												
65	23	88	6,000	4,000	3,500	3,000	2,500	2,000	1,800	1,500	Yes	0
University of North Dakota												
50	29	70	9,000	4,500	3,500	3,000	2,600	2,500	2,000	1,800	Yes	0
Ohio State University												
492	77	590	10,000	6,000	4,000	3,000	2,750	2,500	2,250	2,000	Yes	0
Ohio State University												
56	27	83	7,500	4,500	1,800	3,000	2,700	2,500	2,000	1,800	Yes	0
Oklahoma College for Women												
38	40	4	4,000	2,000	2,250	2,000	2,000	1,600	1,500	1,500	Yes	0
Oklahoma College for Women												
137	32	180	10,000	6,000	4,200	2,900	2,400	2,800	2,200	2,000	No.	0
University of Oklahoma												
Oklahoma Agricultural and Mechanical College												
87	20	116	10,000	4,500	3,150	2,550	2,400	2,000	1,350	1,350	No.	0
Oregon State Agricultural College												
86	31	261	10,000	4,500	4,000	3,500	3,000	2,500	2,000	1,400	No.	1
Oregon State Agricultural College												
20	67	123	8,000	5,000	4,200	4,500	3,500	2,750	2,000	1,900	No.	1
University of Oregon												
274	37	100	12,000	6,000	5,000	3,000	3,000	2,500	2,000	1,500	Yes	3
Pennsylvania State College												
57	43	100	4,200	3,105	2,070	2,000	1,800	1,500	1,200	1,000	Yes	3
University of Porto Rico												
31	9	40	4,500	3,000	2,000	2,000	2,000	2,000	2,000	2,000	Yes	0
Rhode Island State College												
35	55	0	5,000	4,000	3,000	3,000	2,500	2,000	2,000	2,000	No.	0
Medical College of the State of South Carolina												
20	2	20	5,000	4,500	3,125	2,125	2,125	2,500	1,875	1,800	Yes	0
The Citadel, the Military College of South Carolina												
68	2	70	6,000	3,500	3,250	2,500	2,400	2,200	2,000	1,800	Yes	0
Clemson Agricultural College (S. C.)												
0	38	5	5,000	3,000	2,500	2,500	2,250	2,250	1,500	1,200	Yes	12
Winthrop College of South Carolina												
14	73	87	5,000	3,300	3,000	3,000	2,000	1,500	1,250	1,200	Yes	12
South Dakota State College of Agriculture and Mechanic Arts												
78	21	99	6,000	4,500	2,200	5,000	2,400	2,750	2,600	1,500	Yes	0
South Dakota State School of Mines												
12	1	13	5,700	4,500	4,000	3,600	2,700	2,400	2,200	2,200	No.	0
University of South Dakota												
47	16	63	7,500	4,500	4,000	3,600	2,700	2,400	2,200	1,500	No.	0
University of Tennessee												
174	25	199	10,900	3,500	3,250	3,000	3,000	2,400	2,400	1,000	Yes	0
University of Texas												
300	37	337	7,500	6,000	4,000	5,000	3,250	3,000	2,000	1,600	Yes	0
Agricultural and Mechanical College of Texas												
143	0	143	7,500	4,500	3,600	3,500	2,750	2,400	2,200	1,600	Yes	13
College of Industrial Arts (Tex.)												
20	84	104	6,500	4,000	2,500	3,500	2,500	2,500	2,000	1,500	Yes	0
Agricultural College of Utah												
University of Utah												
University of Vermont and State Agricultural College												
109	30	139	7,500	3,600	3,200	3,000	2,420	2,300	1,000	1,500	250	
Virginia Polytechnic Institute												
119	14	133	7,000	4,000	4,000	4,000	2,800	2,400	1,800	1,200	Yes	0
University of Virginia												
89	0	89	7,500	3,600	2,500	2,600	2,500	2,500	1,500	1,500	Yes	25
University of Virginia												
146	0	146	10,000	1,875	250	4,500	4,000	2,500	1,800	1,500	Yes	0
Virginia Military Institute												
32	0	32	6,000	3,000	3,000	3,000	2,400	2,400	200	200	Yes	0
College of William and Mary (Va.)												
26	5	31	6,000	3,300	2,900	3,600	3,500	3,500	2,500	2,100	Yes	1
State College of Washington												
150	42	192	8,000	5,000	4,400	4,400	3,000	3,250	2,250	1,200	Yes	1
University of Washington												
286	39	322	12,000	5,400	4,000	4,000	3,000	2,500	2,000	1,500	Yes	0
West Virginia University												
University of Wisconsin												
597	134	731	10,000	7,500	3,750	7,000	3,150	6,000	2,500	3,000	250	6
University of Wisconsin												
University of Wyoming												
43	35	87	5,040	3,600	3,360	3,180	2,400	2,700	2,400	1,800	Yes	0

<sup>1</sup> For adjunct professors.

**Maximum and minimum salaries for adjunct professors, \$1,320.**

**No report.**

TABLE 2.—Student enrollment in State universities and State colleges for the year 1920-21.

Names of institutions.	Regular term enrollment.										Enrolled in 1920 summer school.		Enrolled in other short courses.		Enrolled in professional departments.								In military drill.											
	Preparatory department. <sup>1</sup>		Department of arts and sciences.		Graduate department.		Professional department. <sup>2</sup>		All other students. <sup>3</sup>		Total (excluding duplicates).		Enrolled in 1920 summer school.	Enrolled in other short courses.	Law.	Medicine.	Dentistry.	Pharmacy.	Veterinary medicine.	Agriculture.	Engineering.	Home economics.		All others.										
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	Total.																							
1	2	3	4	5	6	7	Men.	Women.	8	9	Men.	Women.	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27				
Alabama Polytechnic Institute.			62	11	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Alabama Technical Institute and College for Women.	0	142																																
University of Alabama.	260	0	401	251	5	5	917	64	14	4,337	324,161	485	0	43	0	43	0	43	0	43	0	43	0	43	0	43	0	43	0	43	0	43	0	
University of Arizona.			329	379	25	18	321	72	120	116	716	455,171	31	128	367	56	140	25	140	25	140	25	140	25	140	25	140	25	140	25	140	25	140	
University of Arkansas.	92	0	212	94	4	3	248	222	79	82	635	361,995	193	315	366	378	259	323	119	386	1,321	229	2,406	1,610	437	180	140	140	140	140	140	140	140	
University of California.	598	32	664	162	460	598	848	1,778	205	139	795	6,601,448	1,334	315	366	378	259	323	119	386	1,321	229	2,406	1,610	437	180	140	140	140	140	140	140	140	140
University of Colorado.			610	660	104	170	820	6	12	101,546	846,232	805,598	95	98																				
Colorado Agricultural College.	315	65	4	7			471	0	714	188	22	36	855	268,181	151	71	138																	
Colorado School of Mines.																																		
Connecticut Agricultural College.	155	0	113	83	7	4	0	165	57	34	8	236	72	318	9	158																		
University of Delaware.	180	0	226	0	3	0	482	0	0	0	0	711	0	711	236	508																		
University of Florida.																																		
Florida State College for Women.	252	0	231	46	34	9	767	23	17	0	0	681	356	266	800	633	139																	
University of Georgia.	500	0					1,913	0	0	0	0	2,413	0	2,413	273	0																		
Georgia School of Technology.							63	0	0	0	0	182	10	172		83																		
Medical College of Georgia.			52	3	3		110	7	110	7	172		182	10	172		83																	
North Georgia Agricultural College.			41	21	5		497	6	50	50	75	224	75	224		57																		
University of Hawaii.			231	244	11	4	497	73	6	40	645	334,079	79	68	90	49																		
University of Idaho.			83	84			35	88			223	265,468	(241)																					
Idaho Technical Institute.	115	36	84	108	299	91	5,527	35	42	0	6,772	2,017,879	739	821	1,266	128	313	229	208	27	960	1,774	334	2,463	2,476									
Indiana University.			1,065	1,063	128	83	658	745			2,177	7,787,914	634	845	19	21	265																	
Purdue University.			77	334	31	82	864	13	36	14	2,965	869,460	19	21	90																			
Purdue University (Ind.).																																		
Iowa State College of Agriculture and Mechanic Arts.	694	35	132	522	644	1,024						3,490	1,111,461	935	393	169	168	399	306	73	96	1,076	1,158	766	852	311								
State University of Iowa.	100	361	778	1,726	239	263	1,273	300	1	36	3,163	1,965,546	643	777																				

## STATE UNIVERSITIES AND STATE COLLEGES.

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	1,198	960	60	58	1,041	202	98	112	249	1,331	3,680	449	475	208	134	79	688	191	190
University of Kansas.....	240	40	126	118	27	18	1,233	997	165	109	1,791	872	2,663	259	345	145	422	483	411
Kansas State Agricultural College.....	286	292	17	7	537	110	56	38	905	447	1,352	171	145	82	183	72	323	260	470
University of Kentucky.....																			
Louisiana State University and Agricultural and Mechanical College.....	80	67	191	168	23	5	543	58	24	12	870	298	1,167	253	332	27	136	30	22
University of Maine.....	248	168	29	168	103	7	724	78	30	01	02	353	1,337	78	81	116	541	74	532
University of Maryland.....	29	0	115	17	22	21	279	51	1	443	701	315	48	163	84	164	106	21	345
Massachusetts Agricultural College.....	255	22				423	30	41	7	724	59	785	36	150	90	453		30	225
Massachusetts Institute of Technology.....																			
University of Michigan.....	108	8	164	123	078	18	48	03	308	389	336	(1,283)				3,008	1,171	1,131	
University of Minnesota.....	3,560	2,003	340	100	3,614	79	120	7,488	14,130	811	1,550	635		362	602	455	2,033	178	
University of Mississippi.....	106	0		01	068	378	0	1,232	378	1,598	207	67	510			25	516	372	512
University of Missouri.....	1,442	3,662	2,321	701	1,393	016	941	188	302	7,453	839	11,289	1,778	847	810	399	423	330	777
University of Nebraska.....	547	0	75	0	01,066	0	0	1,603	01,073	198	484			608	200		608	200	718
University of Nevada.....	327	77	0	885	170	5	17	39	500	121	621	46	251	74	48	53	49		
University of New Hampshire.....	169	8	39	30	380	189		598	227	815	84	56					136	215	94
University of New Mexico.....	161	310	13	25	387	108	17	45	578	488	1,046	83	266	49			148		
University of North Carolina.....	550	570	1,017	1,913	164	153	2,066	794	3,777	2,986	6,783	325	771	258	258	139	272	548	416
University of North Dakota.....	141	165	2	9	212	41	34	27	364	234	618	9	108	8			40	172	20
University of Ohio.....	240	138	29	44	71			682	209	891							180	268	240
University of Oregon.....	92	0	286	131	29	1	392	48	5	0	804	180	994	119	440	149	101	201	388
University of Pennsylvania.....	12	0	82	99	3	1	101	108	16	8	155	108	263				54	24	185
University of Texas.....	81	25	7	5	2	3	95	44	21	6	314	80	394				25	49	172
University of Virginia.....	1,203	642	371	693	020	466	25	7	25	32	2	23					81	204	1,686
University of Wisconsin.....	501	44	58	13	900	5	0	294	0	284				12		68	175		279
University of Wyoming.....	0	706					0	65	0	771	771	0	667	13				185	131
University of California.....	297	0	39	0	726	0	7	01	069	01,069	73	442	55				196	327	633
University of Colorado.....	347	119	54	32	2	0	208	86	5	6	567	237	804	432	170	202	75	66	42
University of Florida.....	59	54	339	215	2	227	311			630	582	1,212	80	166	246		159		208
University of Georgia.....	82	108	458	265	54	437				594	808	1,402	354	1,800					491

1 Including secondary schools, also noncollegiate rehabilitation students.

2 Includes students in columns 18 to 26, inclusive.

3 Includes students in music, art, oratory, business, etc., unless they are enrolled in four-year courses leading to a collegiate degree.

4 No report.



TABLE 2.—Student enrollment in State universities and State colleges for the year 1920-21—Continued.

Names of institutions.	Regular term enrollment.										Enrolled in 1920 summer school.		Enrolled in other short courses.							Enrolled in professional departments.						
	Prepara- tory depart- ment.		Depart- ment of arts and sciences.		Graduate depart- ment.		Profes- sional depart- ments.		All other students. (duplicates).		Total (excluding duplicates).		Men.	Women.	Enrolled in 1920 summer school.	Enrolled in other short courses.	Law.	Medicine.	Dentistry.	Pharmacy.	Veterinary medicine.	Agriculture.	Engineering.	Home economics.	All others.	In military drill.
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	Total.															
												Men.														
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Ohio State University.....			1,877	1,023	183	86	3,630	963			5,340	2,007	7,584	890	519	86	172	229	210	145	108	965	1,416	310	1,038	2,216
Miami University (Ohio).....			428	153			45	436			473	589	1,062	169	805									60	49	
Oklahoma College for Women.....	0	185	0	186			0	186	0	4	0	381	381											60	49	
University of Oklahoma.....			926	662	36	34	1,210	282	171	161	1,831	1,042	2,965	442	887		217	103		141		751		280	532	
Oklahoma Agricultural and Me- chanical College.....	349	111	24	36	10	11	550	233	97	68	1,030	479	1,509	122	239	7					4	144	196	165	294	364
Oregon State Agricultural College.....	373	48			11		2,550	1,104			2,923	1,135	4,075	179	310	1,027				190	900	890	590	1,385	1,237	
University of Oregon.....			993	858	35	34	606	312	68	11	1,322	801	2,023	98	158		77	132		822	1,434	138	281	337		
Pennsylvania State College.....			262	91	106	122	522	185	68	11	2,955	296	3,264	305	1,034											
University of Porto Rico.....	317	351	50	24			165	125	7	2	537	542	1,099	237	803		57			46		31	46	110	404	
Rhode Island State College.....			50	4			231	65	6	0	287	66	356													
Medical College of the State of South Carolina.....					1	0	144	10	1	2	144	10	154			84	70									
The Citadel, the Military College of South Carolina.....			297	0			487	0	33	0	297	0	297													
Clemson Agricultural College (S. C.).....			229	57	28	12	254	31	65	18	520	90	610	31	38		106			386	461			135		
University of South Carolina.....					0	45	0	1,064	0	193	0	1,064	1,064	123	1,326	37					44	842	222			
Winthrop College (S. C.).....																										
South Dakota State College of Agri- culture and Mechanic Arts.....	388	61	47	41	10	0	218	104	13	51	676	265	931	56	108				47	66	94	65	46	103		
South Dakota State School of Mines.....	20						119	7			139	7	146													
University of South Dakota.....	31	29	174	249	8	14	231	66	5	8	546	369	912	37	77		89	77		60			71	163		
University of Tennessee.....			208	223	8	0	648	140	31	63	830	342	1,178							49	177	196	140	45	247	
University of Texas.....			1,543	1,465	57	60	1,354	624			2,959	2,140	5,108	747	892		337	218		77				600		
Agricultural and Mechanical College of Texas.....	190	0			23	0	1,635	0	0	353	0	1,948	0	1,948	0				12	746	900			79	200	
College of Industrial Arts (Texas).....	0	102	0	240				624	0		0	1,319	1,319	0	565								450	174		
Agricultural College of Utah.....																										

University of Utah.....	58	38	157	355	35	141,061	445	1,311	832,2,183	249	664	66	264	.....	463	.....	714	151
University of Vermont and State Agricultural College.....	.....	.....	239	216	1	2,341	78	18	622	314	936	35	407	52	103	.....	74	300
Virginia Polytechnic Institute.....	.....	.....	27	0	14	0	752	0	783	0	783	310	0	53	.....	268	501	640
University of Virginia.....	.....	.....	959	0	40	10	671	13	1,700	23,1723	451,365	.....	.....	.....	.....	227	17	.....
Virginia Military Institute.....	.....	.....	579	0	.....	.....	120	0	979	0	979	.....	.....	.....	.....	136	.....	579
Medical College of Virginia.....	.....	.....	.....	.....	.....	394	27	.....	294	27	278	.....	.....	.....	.....	.....	.....	.....
College of William and Mary (Va.).....	.....	.....	284	19	.....	.....	.....	.....	284	19	478	69	128	.....	.....	.....	.....	.....
State College of Washington.....	239	75	228	310	108	16	538	107	1,439	840,2,215	174	213	297	.....	325	356	143	312
University of Washington.....	.....	.....	728	315	103	104	2,558	896	613,444,2	535,2,882	550,1,114	.....	.....	131	.....	927	1,262	.....
West Virginia.....	.....	.....	443	307	28	18	2,558	526	141,183	689,7,862	200,439	.....	.....	34	110	354	132	439
University of Wisconsin.....	.....	.....	1,245	1,360	394	178,3,174	966	185	60,002	570,7,573	6,141,972	360	177	161	408	1,321	235,2,012	1,463
University of Wyoming.....	84	71	94	55	1	2	139	33	61	334	288	639	.....	.....	39	64	28	99

\* No report.



TABLE 3.—*Property and income of State universities*

	Names of institutions.	Property.				
		Bound volumes in libraries.	Value of library, scientific apparatus, machinery, and furniture.	Value of grounds (including farm).	Value of buildings.	Endowment funds.
	1	2	3	4	5	6
1	Alabama Polytechnic Institute.....	31,000	\$245,000	\$30,000	\$800,000	\$294,500
2	Alabama Technical Institute and College for Women.....	7,500	80,000	16,000	650,000	353,116
3	University of Alabama.....	36,800	276,500	300,000	1,027,318	1,023,840
4	University of Arizona.....	34,000	245,900	233,000	1,171,729	10,500
5	University of Arkansas.....	35,300	290,000	127,000	410,000	132,666
6	University of California.....	505,000	3,522,104	.....	11,561,642	8,076,640
7	University of Colorado.....	132,459	527,000	216,550	1,500,000	80,000
8	Colorado Agricultural College.....	46,031	236,324	256,900	.....	271,444
9	Colorado School of Mines.....	16,117	315,138	84,227	456,071	.....
10	Connecticut Agricultural College.....	27,700	202,248	87,560	2,102,984	256,000
11	University of Delaware.....	28,887	258,272	354,944	1,122,666	396,605
12	University of Florida.....	37,000	125,000	185,000	475,000	198,000
13	Florida State College for Women.....	14,000	150,000	100,000	795,000	.....
14	University of Georgia.....	62,000	344,609	750,000	1,574,000	403,702
15	Georgia School of Technology.....	13,500	480,000	150,000	718,700	140,000
16	Medical College of Georgia.....	.....	30,000	75,000	50,000	25,000
17	North Georgia Agricultural College.....	4,000	10,000	30,000	110,000	.....
18	University of Hawaii.....	28,416	131,800	376,044	96,261	.....
19	University of Idaho.....	48,000	425,000	65,000	700,000	1,500,000
20	Idaho Technical Institute.....	5,500	36,000	98,000	290,000	.....
21	University of Illinois.....	466,503	2,695,512	1,083,498	5,505,131	649,012
22	Indiana University.....	141,648	600,000	235,000	1,465,000	780,000
23	Purdue University (Ind.).....	54,000	590,000	225,000	1,725,000	445,500
24	Iowa State College of Agriculture and Mechanic Arts.....	85,246	1,335,268	399,377	3,202,953	693,908
25	State University of Iowa.....	173,000	1,811,413	608,853	3,327,732	284,889
26	University of Kansas.....	140,110	1,544,598	411,000	1,500,000	151,000
27	Kansas State Agricultural College.....	70,500	1,009,033	612,460	1,203,664	491,746
28	University of Kentucky.....	42,921	398,663	257,745	1,249,322	184,075
29	Louisiana State University and Agricultural and Mechanical College.....	51,117	332,249	357,611	588,544	318,993
30	University of Maine.....	70,000	301,402	14,005	718,127	218,300
31	University of Maryland.....	30,000	574,227	85,800	1,779,130	.....
32	Massachusetts Agricultural College.....	64,765	665,706	132,238	1,018,234	361,000
33	Massachusetts Institute of Technology.....	145,654	.....	2,639,081	8,783,352	14,902,276
34	Lowell Textile School (Mass.).....	1,350	341,071	121,484	413,754	.....
35	University of Michigan.....	457,847	3,290,451	1,036,351	7,388,154	1,437,203
36	Michigan Agricultural College.....	45,000	250,000	120,000	1,300,000	.....
37	Michigan School of Mines.....	30,460	.....	.....	871,424	.....
38	University of Minnesota.....	300,000	2,943,712	2,921,917	7,078,999	4,030,917
39	Mississippi Agricultural and Mechanical College.....	42,328	613,907	157,520	906,590	236,787
40	Mississippi State College for Women.....	13,650	140,650	150,000	630,500	.....
41	University of Mississippi.....	31,000	100,000	50,000	1,730,000	.....
42	University of Missouri.....	.....	.....	.....	.....	.....
43	Montana College of Agriculture and Mechanic Arts.....	23,125	208,142	94,523	529,145	.....
44	Montana State School of Mines.....	7,000	85,000	.....	265,000	.....
45	University of Montana.....	48,250	150,000	130,000	375,000	27,065
46	University of Nebraska.....	154,000	1,041,593	1,764,194	3,354,498	901,717
47	University of Nevada.....	35,800	184,712	110,000	526,298	339,169
48	New Hampshire College of Agriculture and Mechanic Arts.....	42,587	301,068	113,940	1,730,400	950,000
49	Rutgers College (N. J.).....	113,000	398,500	542,800	1,162,113	1,482,034
50	University of New Mexico.....	39,068	121,204	200,000	355,563	82,500
51	New Mexico School of Mines.....	2,500	34,000	8,000	170,000	.....
52	New Mexico College of Agriculture and Mechanic Arts.....	19,299	304,816	39,475	318,707	.....
53	New York State Library School.....	(1)	.....	.....	.....	.....
54	Cornell University (N. Y.).....	655,086	3,087,980	396,920	6,723,483	17,188,176
55	New York State College of Forestry.....	5,000	163,000	40,000	275,000	.....
56	University of North Carolina.....	100,172	600,000	139,000	987,990	.....
57	North Carolina College for Women.....	17,240	150,000	125,000	2,500,000	.....
58	North Carolina College of Agriculture and Engineering.....	10,000	410,795	110,073	954,446	.....
59	North Dakota Agricultural College.....	32,640	380,829	96,000	736,000	1,074,505

<sup>1</sup> Includes appropriations for experiment stations and extension work.

<sup>2</sup> Includes \$150,000 unexpended in 1920.

and State colleges for the fiscal year 1920-21.

Income.							Analysis of State appropriations.			
Student fees, excluding board and room rent.	From productive funds.	From the State. <sup>1</sup>	From United States Government. <sup>1</sup>	Private benefactions.	From all other sources.	Total working income.	Mill tax rate.	Receipts from mill tax.	Appropriation for current expenses. <sup>1</sup>	For building and permanent improvements.
7	8	9	10	11	12	13	14	15	16	17
\$83,961	\$20,280	\$386,420	\$204,771	\$8,000	\$80,000	\$783,432			\$337,045	\$49,375
22,809	21,008	51,697	2,947		16,362	114,818			51,697	
60,791	81,754	210,731	3,231	10,302	2,783	378,682			167,606	43,125
31,770	33,105	636,078	108,152		39,455	843,555			484,073	152,000
31,294	6,903	376,728	204,231		17,688	636,839		297,500	79,223	
721,012	369,799	119,962	174,620	1,324,245	1,008,204	6,707,832			3,049,224	70,688
160,594	6,780	560,500			112,497	840,341		560,500		
34,980	19,165	434,480	126,734		88,380	703,719		325,807	108,673	
42,366		115,862			12,401	170,629		115,862		
42,153	18,796	506,088	85,712		198,408	851,156			345,541	160,547
30,238	23,668	81,841	89,810	99,066	20,004	344,627			79,511	2,330
14,196	9,940	141,516	60,000	13,000	2,692	241,844			141,516	
15,000	2,064	200,000				217,064			122,500	77,500
45,005	28,524	363,173	236,629	8,937	138,609	820,577			358,173	5,000
121,666	4,000	235,400		40,000	39,370	440,436			135,400	100,000
5,562	1,709	58,906				66,146			58,905	
1,200		30,000			2,000	33,200			30,000	
427		111,141	50,000			161,568			111,141	
8,999	126,646	517,908	113,834		17,386	784,770			457,903	60,000
4,270	15,000	198,000			750	218,020			153,000	45,000
516,630	32,451	2,526,758	291,497		766,697	4,134,028		2,515,263	11,500	
196,903	49,780	751,308			146,736	1,144,727		637,196	114,112	
162,267	39,431	862,756	235,138		350,179	1,658,771		662,756	200,000	
213,645	31,813	1,967,945	243,989	1,250	272,795	2,721,437			1,451,969	505,976
294,875	22,011	1,446,563			1,245,665	3,000,114			1,246,063	197,500
201,665	9,220	1,164,114			119,329	1,494,328			833,500	336,214
137,314	23,360	981,203	201,592		389,700	1,733,169			891,203	90,000
38,227	10,356	550,987	424,238	3,850	151,982	1,179,640		365,987	80,000	105,000
30,632	14,566	516,698	177,848		86,920	826,654			516,698	
131,162	12,471	294,809	123,644	1,500	141,129	704,715			294,809	
136,073	7,501	598,343	146,362		114,715	1,006,024			395,343	203,000
9,480	10,618	981,330	115,241		136,146	1,132,810			715,505	145,825
959,156	997,100	100,000	16,668	861,737	141,840	2,776,501			100,000	
54,342		179,450				233,792			175,450	4,000
990,487	96,686	3,018,750	15,612	164,348	921,907	5,207,790		2,193,750		825,000
132,041	70,685	1,085,000	228,173		283,027	1,796,926		1,065,000		
25,918		90,939				116,957			90,939	
711,690	115,535	3,656,498	221,942		629,327	5,334,992		401,524	2,535,179	719,795
40,089	15,518	362,987	210,923		474,160	1,103,677			362,987	
22,120	9,389	133,293	7,992		15,553	188,347			133,293	
47,000		509,840				556,840			183,840	366,000
16,503		439,500	112,617		63,370	631,990			369,500	70,000
1,282		45,000				46,282			45,000	
22,128	52,381	221,955	1,600		3,094	301,158			218,372	2,583
206,279	49,841	1,650,881	172,155		552,269	2,631,425		856,297	600,629	193,955
25,404	15,559	166,037	96,396	6,700	33,889	343,975		156,118	9,919	
45,076	37,373	209,588	111,156		183,038	586,231			207,088	2,500
94,311	80,164	249,816	148,721	200,871		773,363			171,567	77,749
8,505	23,546	86,199		7,922	8,484	134,656			86,199	
4,836	18,200	9,421			7,669	40,126			9,421	
6,096	13,900	178,398	66,168		67,273	331,835			178,398	
1,055,603	882,618	1,353,389	266,706	1,322,776	679,798	5,560,890			1,333,444	19,945
19,234		221,371				240,605			215,000	250,000
104,303		465,000				569,303			157,500	246,440
71,062		403,940			74,640	549,662				
57,178	7,500	602,637	249,470		120,151	1,036,936			200,000	402,637
15,720	54,593	378,448	137,965	4,565	52,842	644,133			378,448	

<sup>1</sup> No report.<sup>2</sup> Uses New York State library.

TABLE 3.—*Property and income of State universities*

Names of Institutions.	Property.				
	Bound volumes in libraries.	Value of library, scientific apparatus, machinery, and furniture.	Value of grounds (including farm).	Value of buildings.	Endowment funds.
1	2	3	4	5	6
60 University of North Dakota .....	71,000	\$469,932	\$128,391	\$661,210	\$2,000,000
61 Ohio University .....	52,000	401,900	550,000	1,659,667	.....
62 Ohio State University .....	221,966	1,964,988	2,151,045	3,217,134	1,058,088
63 Miami University (Ohio) .....	57,067	286,764	100,143	860,921	160,891
64 Oklahoma College for Women .....	5,898	23,800	40,000	600,000	.....
65 University of Oklahoma .....	32,600	459,040	79,201	1,470,484	3,200,000
66 Oklahoma Agricultural and Mechanical College ..	35,816	345,046	74,644	1,043,468	.....
67 Oregon State Agricultural College .....	57,071	649,193	553,132	1,834,662	203,384
68 University of Oregon .....	100,000	408,956	368,000	1,304,796	55,000
69 Pennsylvania State College .....	78,000	850,850	152,180	2,201,152	531,745
70 University of Porto Rico .....	8,200	124,200	55,900	185,650	40,000
71 Rhode Island State College .....	22,760	147,660	15,000	400,000	.....
72 Medical College of the State of South Carolina ..	3,500	62,966	40,000	201,800	.....
73 The Citadel, the Military College of South Carolina ..	7,000	71,357	850,000	1,018,329	.....
74 Clemson Agricultural College (S. C.) .....	28,429	601,611	354,479	1,107,565	154,439
75 University of South Carolina .....	65,500	247,954	945,000	394,700	.....
76 Winthrop College (S. C.) .....	23,648	429,283	460,287	1,551,052	.....
77 South Dakota State College of Agriculture and Mechanic Arts .....	80,000	96,000	667,000	125,000	975,604
78 South Dakota State School of Mines .....	8,000	105,000	40,000	150,000	.....
79 University of South Dakota .....	40,500	216,000	45,000	600,000	.....
80 University of Tennessee .....	42,741	399,640	971,850	1,330,863	425,000
81 University of Texas .....	223,368	1,640,734	1,298,333	2,494,140	10,828,028
82 Agricultural and Mechanical College of Texas ..	20,000	623,076	178,221	2,544,548	209,000
83 College of Industrial Arts (Tex.) .....	13,000	242,445	167,066	957,796	.....
84 Agricultural College of Utah <sup>1</sup> .....	.....	.....	.....	.....	.....
85 University of Utah .....	63,822	328,410	30,000	962,700	95,400
86 University of Vermont and State Agricultural College .....	96,960	230,000	100,000	1,520,000	819,796
87 Virginia Polytechnic Institute .....	35,000	239,992	124,207	629,159	344,312
88 University of Virginia .....	124,300	373,521	600,000	1,486,126	2,946,993
89 Virginia Military Institute .....	22,000	30,751	67,500	864,898	45,000
90 Medical College of Virginia .....	5,756	38,916	30,635	305,000	.....
91 College of William and Mary (Va.) .....	21,000	75,000	60,000	475,000	151,327
92 State College of Washington .....	80,125	498,640	221,126	1,347,493	1,168,254
93 University of Washington .....	132,444	748,583	1,061,250	2,190,166	7,321,561
94 West Virginia University <sup>1</sup> .....	.....	.....	.....	.....	.....
95 University of Wisconsin .....	286,000	2,222,967	2,369,806	6,682,758	722,000
96 University of Wyoming .....	48,000	341,500	125,000	600,000	1,118,547

<sup>1</sup> No report.<sup>2</sup> 64.43 per cent of 28 per cent of the State levy of 2.4 mills.

and State colleges for the fiscal year 1920-21—Continued.

Student fees, excluding board and room rent.	Income.						Analysis of State appropriations.			
	From productive funds.	From the State. <sup>1</sup>	From United States Government. <sup>1</sup>	Private benefactions.	From all other sources.	Total working income.	Mill tax rate.	Receipts from mill tax.	Appropriation for current expenses.	For building and permanent improvements.
7	8	9	10	11	12	13	14	15	16	17
\$44,909	\$54,058	\$337,168			\$9,521	\$445,656			\$320,371	\$16,797
80,305	16,859	259,970			41,634	398,768			259,970	
319,533	62,503	1,912,568	\$255,913	\$17,465	612,166	3,180,148			1,912,568	
67,995	22,766	229,965	4,772	5,358	5,996	336,652			229,965	
6,602		174,560	1,300		435	182,887			93,550	81,000
84,091	183,200	707,209	1,500			976,000			707,209	
13,903		804,682	209,627		109,617	1,137,829			689,000	115,000
77,560	11,272	469,132	124,089		192,549	1,874,602			224,949	
76,163	9,397	1,039,703		113,269	21,258	1,259,790		\$1,244,183	838,894	113,269
131,280	31,029	790,044	295,817	5,000	715,396	1,988,537		847,540	790,044	
7,671	4,458	173,667	50,000	196	5,770	241,161			173,667	
10,020	2,500	147,318	91,674		33,827	285,339			115,294	32,024
1,581		125,592				127,173			70,592	55,000
12,148		812,055			12,021	836,224			122,757	699,296
13,496	9,266	352,966	187,779		77,204	640,721		167,505	185,481	
26,877		242,855			25,150	294,882			180,355	62,500
55,466		420,825	6,836		55,601	538,738			295,200	125,635
25,902	65,206	605,540	137,279		58,012	891,939			415,675	189,865
4,464	17,186	97,614			3,626	122,890			89,614	8,000
23,594	2,000	318,500			41,477	385,571			318,500	
119,741	24,210	222,742	221,420	60,783	145,472	664,368		214,890	77,862	
122,234	312,010	1,356,623	7,667	100,000	267,625	2,166,159			1,356,623	
104,299	10,450	1,412,890	323,555	1,390	415,546	2,268,120			946,640	466,250
82,054		545,274	3,500		80,328	711,156			284,674	260,600
51,541	38,793	342,911	15,162		5,197	453,604	(*)	\$18,050	24,861	
120,024	53,961	149,775	127,532	13,751	108,440	573,483			149,775	
22,353	20,659	467,528	221,085		110,230	841,855			383,308	84,220
194,916	108,789	255,333		228,100	206,592	993,730			212,833	42,500
42,134	5,424	127,725			26,790	202,073			127,725	
91,651		45,000				126,651			45,000	
23,473	8,999	243,210		10,000	39,043	324,725			79,510	163,700
72,370	62,856	892,556	140,005		293,597	1,461,384	(*)	364,543	353,834	174,179
317,687	42,642	1,624,225	3,400		58,382	2,046,336	(*)	972,779	112,802	538,644
889,736	38,885	2,541,545	231,936	37,561	706,432	4,446,095		\$1,714,011	500,160	327,374
15,557	80,811	427,760	99,577	500	14,387	638,592		202,639	75,063	150,058

\* A little less than one-half of 1 mill.

† A little less than two-thirds of 1 mill.

TABLE 4.—*Per cent of income of State universities and State colleges derived from the various sources, 1920-21.*

States.	From pro- ductive funds.	From United States Govern- ment, State, or city.	From private bene- fac- tions.	From student fees and other sources.	States.	From pro- ductive funds.	From United States Govern- ment, State, or city.	From private bene- fac- tions.	From student fees and other sources.
1	2	3	4	5	1	2	3	4	5
Alabama.....	9.6	67.3	1.5	21.6	Nebraska.....	1.9	69.3	2.0	26.8
Arizona.....	3.9	87.6	.....	8.5	Nevada.....	4.5	76.3	2.0	17.2
Arkansas.....	1.1	91.2	.....	7.7	New Hampshire.....	6.4	54.7	.....	38.9
California.....	5.4	49.1	19.7	25.8	New Jersey.....	10.3	51.5	26.0	12.2
Colorado.....	1.5	72.2	.....	26.3	New Mexico.....	11.0	67.1	1.6	20.3
Connecticut.....	2.2	69.5	.....	28.3	New York.....	15.2	31.7	22.8	30.3
Delaware.....	6.9	49.8	28.7	14.6	North Carolina.....	4	79.8	.....	19.8
Florida.....	2.6	87.6	2.8	7.0	North Dakota.....	10.0	78.3	4	11.3
Georgia.....	2.5	67.9	3.6	26.6	Ohio.....	2.6	68.0	6	28.8
Idaho.....	14.1	82.8	.....	3.1	Oklahoma.....	8.0	82.7	.....	9.3
Illinois.....	8	68.2	.....	31.0	Oregon.....	7	84.0	3.6	11.7
Indiana.....	3.2	65.9	.....	30.9	Pennsylvania.....	1.6	55.2	2	43.0
Iowa.....	9	63.7	.....	35.4	Rhode Island.....	9	83.7	.....	15.4
Kansas.....	1.0	72.7	.....	26.3	South Carolina.....	4	88.1	.....	11.5
Kentucky.....	9	82.7	3	16.1	South Dakota.....	6.0	82.8	.....	11.2
Louisiana.....	1.8	84.0	.....	14.2	Tennessee.....	2.8	59.5	7.0	30.7
Maine.....	1.8	59.4	2	38.6	Texas.....	6.3	70.9	2.0	20.8
Maryland.....	8	74.3	.....	24.9	Utah.....	8.6	78.9	.....	12.5
Massachusetts.....	17.0	30.8	20.8	31.4	Vermont.....	9.4	48.4	2.4	39.8
Michigan.....	2.4	62.3	2.3	33.0	Virginia.....	5.8	54.4	9.5	30.3
Minnesota.....	2.2	72.7	.....	25.1	Washington.....	3.0	75.8	.....	21.2
Mississippi.....	1.3	66.3	.....	32.4	West Virginia.....	9	62.4	8	35.9
Missouri.....	.....	.....	.....	.....	Wisconsin.....	.....	82.6	1	4.7
Montana.....	5.3	83.8	.....	10.9	Wyoming.....	12.6	82.6	.....	.....

\* No report.

\* University only.









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ALL BOOKS MAY BE RECALLED AFTER 7 DAYS

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  - 1-year loans may be recharged by bringing books to NRLF
  - Renewals and recharges may be made 4 days prior to due date.
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DUE AS STAMPED BELOW

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**FEB 16 2002**

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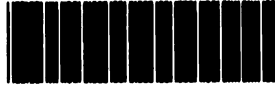
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